Agriculture

Guides for Wartime Use of Women on Farms

U. S. DEPARTMENT OF LABOR
Women's Bureau, Special Bulletin No. 8

UNITED STATES DEPARTMENT OF LABOR
FRANCES PERKINS, SECRETARY

WOMEN'S BUREAU
MARY ANDERSON, DIRECTOR

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Guides for Wartime Use of Women on Farms

SPECIAL BULLETIN NO. 8 OF THE WOMEN'S BUREAU

United States
Government Printing Office
Washington : 1942

For sale by the Superintendent of Documents, Washington, D. C. - - - - - - - - - - Price 10 cents

CONTENTS

	Page
The need for farm labor	1
The use of women on farms	1
Principles to be observed	1
Recruiting women workers for agricultural employment.	
Use of women in local communities	2
Determination of the need for women workers	2
Recruiting	3
Placement of women on farms	3
Physical examinations	4
Standards of employment of women workers.	
Hours	5
Day of rest	5
Wages	5
Transportation	6
Housing	7
Supervision	7
Cooperation of women's organizations in the solution of the farm-labor problem.	
Help in recruiting	8
Training	8
Doctor's certificate	9
Labor standards	9
Transportation	9
Housing	10
Community cooperation	11

Guides for Wartime Use of Women on Farms

The need for farm labor.

If the need of America's armed forces and the requirements of her allies are to be met, more food must be produced in the United States this year than ever before in history. Labor sufficient to sow and harvest the huge crop anticipated may not be available from the usual sources. Thousands of farm laborers have entered military service. Others are accepting employment in war industries because of their relatively higher wages. The shortage of automobile tires no doubt will reduce the supply of migratory workers who in normal times follow the crops from one agricultural area to another.

The use of women on farms.

The women of the Nation are eager to help in every possible way to win the war. The employment of women in manufacturing and in agriculture is nothing new. Since the outbreak of war the demand for women's services in the manufacturing of war equipment and munitions has greatly increased. Farmers also may find it necessary to use women in increasingly large numbers as the agricultural season develops. Farmers' wives and daughters will help in the fields to a greater extent than usual. Neighbors will exchange services more than is customarily the case, and women in nearby towns and villages doubtless will be available for short emergencies. In extreme emergencies the help of women from the cities may be needed to harvest the crops that will be necessary to win the war.

Principles to be observed.

Any plan for the increased use of women workers in the Nation's "food-for-victory" program should observe three main principles:

1. The recruiting of women for agricultural service should be done systematically and efficiently, and should be confined to those areas

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in which a real need for women's services is anticipated. The agency best equipped to do the necessary recruiting is the United States Employment Service.

2. Only those women should be selected for work on farms who are able to make a substantial contribution to production. Physical fitness for the job, training, and experience should be the determining factors in selecting prospective workers.

3. Such working and living conditions as experience has proved are essential to maximum production and the maintenance of health should be provided. Under no circumstance should the use of women be permitted to lower existing standards of wages and working conditions.[1]

Recruiting Women Workers for Agricultural Employment

Use of women in local communities.

Recruiting of women for work on the farm should be limited as far as possible to those communities in which an anticipated shortage of farm labor has been definitely established. Farmers' requirements for additional workers are often sporadic, uncertain, depending on weather conditions, and for frequent but short periods of time. If the women needed for farm work can be secured from the immediate vicinity, the perplexing problems of transportation and housing can be reduced or entirely eliminated. In this period of national strain every effort should be made to avoid the creation of new problems in the efforts to solve existing difficulties. Therefore, only when a survey of the local supply of labor, including available women, shows such supply to be wholly inadequate, should the bringing in of women from remote areas be considered.

Determination of the need for women workers.

Two United States Government agencies—the Department of Agriculture and the Employment Service—are making systematic and continuous surveys to determine the local needs for farm labor. The farm placement division of the Employment Service, which has 1,500 full-time and 3,000 part-time offices, is especially concerned with securing estimates of the number of men and women who may be needed

[1] The Children's Bureau, U. S. Department of Labor, has issued a statement of Policies on Recruitment of Young Workers for Wartime Agriculture.

in each farm area. In every State and in every county in the United States there is an agricultural war board, made up of representatives of each agency of the Department of Agriculture. One of the purposes of these boards, known as the United States Department of Agriculture War Boards, is to see that coordinated action is taken to meet the farmers' need for labor.

No plan to organize women volunteers for farm work in any community should be undertaken until the local representatives of both these official agencies have been consulted concerning the need for women workers on local or neighboring farms. A great deal of wasteful effort may be avoided if this policy is closely adhered to. The recruiting of people for jobs that do not exist lowers morale and increases the difficulty of securing volunteers when the real need for their services does arise.

Recruiting.

When the necessity for recruiting women in certain areas has been determined by official agencies, the registration of women for farm work should be done under the direction of or in cooperation with State and local farm placement offices of the United States Employment Service. This policy is necessary if confusion and duplication in registration is to be avoided. Volunteers may be of assistance in this work, but their efforts should be channeled through Employment Service offices, which are experienced in the task of registering large numbers of job applicants. It is even more necessary that all classifications of registration, and referrals and placements, be made by the public employment offices.

Placement of women on farms.

As confusion in registration of women for farm work can be avoided if one central agency is utilized for registration, so speed and economy in supplying farmers with labor can be accomplished if placements are made through the farm placement offices established by the Employment Service for this purpose. These offices serve as clearing houses for farmers who need labor and workers who are available for farm employment.

Every woman who is willing and qualified to do the kind of work for which farmers will require help should apply for employment at the nearest farm placement office. As already stated, there are 1,500 full-time and 3,000 part-time offices of this kind in the country. Through a personal visit or a letter to one of these offices women can secure the information they require about opportunities for farm employment. Trained interviewers, who understand the requirements of each job and the amount of skill and experience necessary, will refer women applicants to the types of job for which they are best qualified. Thus much unnecessary personal interviewing of farmers and "shopping around" for appropriate work can be avoided by women willing to do farm work. Should there be no employment office in a given locality, information concerning the local need for farm labor can be secured from the county agricultural war board.

Physical examinations.

Much of the work for which farmers may need help doubtless will be heavy work, most of which probably will have to be performed under a hot sun. To avoid serious physical consequences of work for which some women may be unfitted, physical examination should be required of all women before placements are made. The experience of the United States and Great Britain during the first World War and Great Britain's experience in the present war confirm the wisdom of this policy. Not only would the farmer and the individual woman benefit by such a requirement, but groups of workers would be protected against the spread of illnesses and contagious diseases.

Standards of Employment of Women Workers

If the war is to be won, many unusual sacrifices will be required of the workers who make materials and equipment, as well as of men in the armed forces. Experience has taught, however, that if production is to be maintained, certain standards of employment must be observed. Conditions that undermine the health of workers, cause excessive labor turnover, or reduce morale tend to cut down production. At a

time when labor is scarce, and many workers unaccustomed to the demands of the farm must be used to harvest the Nation's food supply, every effort should be made to increase production through the maintenance of those standards of work which experience has shown tend to increase output. The Employment Service can be of great assistance to a community by furnishing to farmers and workers information concerning wages and working conditions that have proved effective in stimulating production.

Hours.

Uncertain weather conditions that control much of the work of the farm make irregularity of hours frequent and often unavoidable. Nevertheless, in agriculture as in industry, long hours over a considerable period of time result in reduced production. This is especially true of repetitive and monotonous work, like planting, hoeing, and picking, that requires stooping or reaching—the kind of work for which women may be employed in agriculture in the largest numbers.

Eight hours a day and 48 hours a week have become the accepted standards for women in most occupations. On farms women should not be employed for longer hours except in emergencies, when the crop must be worked on immediately in order to prevent its loss. When emergencies require overtime for several days, compensating time off should be allowed during the same or the following week to assure full recuperation from the unusual physical strain.

Day of rest.

One day of rest in seven should be universally observed for all women engaged in agriculture. Science and experience have proved that one day off the job each week helps to keep the workers physically fit, with the result that output is increased.

Wages.

Because of their eagerness to serve their country, some women may be willing to work on farms during the war crisis for little or no pay. Though the motive is generous, the effects of such a practice would be wholly unsound socially.

Millions of men and women in peace times as well as in time of war must earn their living by working for wages on the Nation's farms. Many of these workers find existence at present wage levels exceedingly difficult. Should women offer to work for less, they would serve only to undercut existing rates and aggravate an already serious social problem.

In this country we do not have a National minimum-wage law, as Great Britain has, for farm workers. Some of the State minimum-wage laws for women permit the fixing of rates for women in agriculture, but thus far no wage order for this class of workers has been issued.

Voluntary wage standards, however, should be maintained for all farm workers. The Federal Fair Labor Standards Act serves as a guide as to what the minimum-wage standards for women in agriculture might be. Under the Federal law men and women employed in interstate industries must be paid at least 30 cents an hour. Most canneries, as well as other manufacturing establishments, are covered by this act. In many areas the same workers are employed alternately on the farms and in neighboring canneries. As the crops ripen, the workers follow them from fields to canning factories to help in their preserving. If farmers are to attract a sufficient number of workers to harvest this year's crops they must pay wages comparable to those that workers can get in canneries and other industries.

In communities in which fair wage standards are adopted by voluntary agreement, public employment offices can help by informing employers and workers of the recommended rates.

Transportation.

Transportation may be a serious problem in the effort to supply the farm with adequate labor this season. Even where the women who may be used on the farms can be secured from places no more remote than neighboring towns and villages, still some transportation will be necessary. In many cases farmers will be obliged to provide the means of getting women to and from their homes in order to secure their services. It is possible that in some communities school buses may be

used to pick up the workers in the morning and to return them to their homes at night. Because of the shortage of rubber tires, transportation this year becomes an important condition of employment, which must be met if women are to be used to any extent on farms.

Housing.

Because of the transportation problem some farmers may prefer or find it necessary to employ workers who will be willing to live on the farms or in quarters that the neighborhood may be able to provide. This situation may create many perplexing questions concerning the maintenance of proper housing standards.

When only one or two women are employed, it may be possible to accommodate them in the farmer's own home. The problem becomes more serious, however, where larger numbers of women are required and living quarters must be provided for a relatively long time. Temporary buildings or tents may be provided by farmers; the dormitories of neighboring private schools or the facilities of consolidated schools may be utilized; or camps built from public funds may be a possibility.

Wherever housing is provided for groups of workers, certain minimum standards should be observed. Frequent inspection by the proper local authorities should be made to assure that wholesome and sanitary conditions prevail. Recommended minimum standards include the following:

a. Clean and sanitary living quarters, screened if possible.

b. Adequate and sanitary toilet facilities.

c. Shelters that are proof against rain and free from unwholesome dampness.

d. Pure water for drinking and bathing, tested and certified as safe by public health authorities.

e. Clean and comfortable beds. A single bed for each worker wherever possible.

Supervision.

If groups of young women should be employed on farms and required to live in camps or dormitories, proper supervision by qualified adult women should be provided in all cases.

Cooperation of Women's Organizations in the Solution of the Farm-Labor Problem

Many women's organizations are eager to help in solving the pending farm-labor shortage and have offered their services to State and Federal agencies. Some groups have indicated that their members will themselves be willing to work on farms if the crisis becomes so acute as to make this necessary. Organized women probably can render the greatest assistance to the "food-for-victory" drive by helping to put into operation the program outlined in the first part of this pamphlet.

Close cooperation with local farm placement offices of the Employment Service and agricultural war boards will enable women's organizations to determine how they can best serve in this emergency and whether or not a farm-labor problem actually exists in their communities.

Help in recruiting.

If women are to be needed to work on neighboring farms, local women's organizations can be of help in recruiting women for this work. They can arrange for meetings at which representatives of the Employment Service offices can explain the farm program as it relates to women. Announcements prepared by the Employment Service can be carried in club periodicals. If in some localities the necessity becomes urgent, many women doubtless would be willing to participate in a house-to-house canvass or telephone campaign to inform women of the need for their services and to urge them to register at the nearest public employment office.

Training.

In some communities labor may be needed for types of farm work for which few women are qualified at present either by experience or training. If men and boys are not available for these jobs, it may become necessary to train women in order to provide an adequate supply of workers. In communities where this necessity arises, representatives of women's organizations in cooperation with other groups can arrange for the establishment of short training courses. State and

local agricultural schools and colleges may be able to provide the necessary instruction if the need for such training is effectively presented to them by representative citizens of the community.

Doctor's certificate.

Because there is no legal regulation limiting the employment of women in agriculture to those who can pass an appropriate physical examination, the establishment of such a standard necessarily must be voluntary. Women's organizations will recognize more readily than some other groups the importance of safeguarding the health of women workers. The responsibility for persuading the proper authorities in the community to adopt reasonable safeguards to health should be assumed by women's organizations. In communities where free clinics have not been established, women may be able to arrange with local physicians to give physical examinations without charge to those women applicants for farm work who can not afford to pay for them.

Labor standards.

State and local committees of farmers, workers, and representatives of the public may work out together the standard wage rates that should be paid to farm laborers and the length of the basic workday and week in the respective communities. Either as members of these committees or as advisers to them, representatives of women's organizations can exert great influence in securing the establishment and maintenance of proper working conditions for women.

Transportation.

In communities where a serious labor shortage may be accentuated by a shortage of transportation facilities, members of women's organizations can be of material help. Many women may be willing to use their own cars to transport workers to and from farms on which they are employed. The entire neighborhood could be canvassed by women and a corps of volunteer motorists willing to furnish transportation in emergencies could be organized. Even where school buses may provide adequate transportation, arrangements must be

made with local authorities for their use. Responsibility for arranging for this means of transportation could be taken by women's organizations.

Housing.

In the matter of housing, women's organizations have a grave responsibility. It is of the utmost importance that the women and young people who respond to the country's urgent call for help in harvesting the Nation's crops be furnished suitable places in which to live. Not only must the living quarters be sanitary and comfortable, but a wholesome social atmosphere must be assured.

If women in the farm communities would open their homes to the young workers and the women who come into their neighborhood to do farm work, they would render a most patriotic service. Many of these new workers may be leaving their own homes for the first time and entering an environment with which they are entirely unfamiliar. The success with which they adjust to the new jobs will depend not alone on the conditions under which they work but very largely on the conditions under which they live. The friendly atmosphere of a private home to which workers could return from work in the evening would help them make the necessary adjustment. Women with a sympathetic understanding of the problem could without doubt persuade many householders in the neighborhood to offer temporary homes to newcomers working on nearby farms.

In some cases an uninhabited house, subjected to a thorough cleaning and provided with a few simple furnishings through the cooperative efforts of the women of the community, might be the answer to the local housing problem.

Where the resources of the community fail to yield any adequate solution for the problem of sheltering nonresident farm laborers, outside assistance may be necessary. The Farm Security Administration of the United States Department of Agriculture has had much experience in building farm-labor camps throughout the country. Public money allocated for this purpose is extremely limited, and the demands for Farm Security labor camps by the local communities are many.

However, where an urgent need for such assistance actually exists, and the community decides to ask for Federal aid, women's organizations in cooperation with other civic groups may succeed in securing the desired housing project.

Groups of young people living together in dormitories or camps must have the protection of intelligent supervision. Members of women's organizations who have had broad experience with young people would make welcome volunteers in many farm communities this summer. Mothers whose children are grown, teachers or camp counselors who are willing to forego part of their summer vacations in order to help with the "food-for-victory" program, would make excellent housemothers or supervisors in farm-labor camps where young people may be housed. Women's groups which could provide capable women willing to assume these duties would be making a real contribution.

Inspection of camps and hostels to assure that the general welfare of women and young people living in them is properly protected must in most communities be the responsibility of volunteers. Few if any States provide for public supervision of this kind. Again women's organizations doubtless will be called on to provide personnel or furnish advice concerning standards of supervision.

Community cooperation.

In areas where substantial numbers of women must be employed to meet the farm-labor shortage, careful community planning will be necessary in order that women may be employed most efficiently. Local agricultural war boards probably will be responsible for surveying the needs and resources of a locality and for securing the cooperation of women's and other civic groups in carrying out a constructive program. Committees on housing, transportation, or training may be necessary, or individual organizations may be asked to assume responsibility for putting into effect certain phases of the farm-labor program. Overlapping and duplication of effort can be avoided, and greater efficiency in solving the farm-labor problem may be attained, if each community organizes its resources and systematically allocates the tasks that must be done.

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FARM HELP WANTED



ARE YOU LOOKING FOR WORK? CAN YOU DO FARM WORK?

If so, the Government will tell you where to go for a job—to a farm where they are raising, harvesting, packing, hauling the crops that will help us win the war. Let the Government help you find that job—through the United States Employment Service.

We're in the war, and that means we must have more food than ever before—for our country and our fighting forces, for our Allies across the seas. We must have more of all the staple vegetables and fruits, more poultry, hogs and cattle, more milk and eggs and cheese. We must have more soybeans and peanuts for oil, more wool and hides for clothing and shoes.

Farmers must have help to grow these crops and get them to market. ***New*** help in place of the farm boys who have gone into military service. ***More*** help than ever before, because farmers have more work to do than ever in their lives.

So—if you can do farm work, and if you are looking for work, let your Government help you find the job.

THIS IS THE WAY TO GET WORK

Whether you want year-round work or just a job for the season, go to the nearest United States employment office and tell them what kind of work you can do. There

are 1,500 of these offices, so there must be one near you. If you don't know where it is, ask at your post office.

There is a man in every one of these Government employment offices who knows where farm help is needed in your neighborhood, and in other places too. He will tell you, ***free of charge.***

He can tell you where there is work, how long it will last, how much it pays, where and how you can live while on the job. If you want the job, he will send you to the owner or manager who hires the help. You don't pay anybody anything for this.

DON'T WASTE TIME TRAVELING

Whenever you leave a job—wherever you are—get in touch with the nearest United States employment office at once, so that you can get to another job without wasting time.

The employment office will always try first to send you to a job near your home. But if there is no work near home, the office will tell you where help is needed in other parts of the country. The office keeps in touch with farmers, ranchers, truck gardeners, fruit growers, canners, and packers all over the United States. It knows when their busy seasons begin and how much help they will need. It can send you from one job to another, as the work ends in one part of the country and

begins somewhere else. So you have a better chance for steady work when you use the Government's free employment office.

Whenever a Government employment office sends you to a job, you know before you leave home that there *is* a job. This is much better than following some advertisement, or the rumors you hear about jobs in some far-off place—jobs which may be gone when you get there. Ask your United States employment office about it first—before you leave home. If there is work anywhere, that office will know about it.

There is work for you to do and your country needs your help. Let the Government find the job. Ask the nearest office of the United States Employment Service.



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February 1942

HOW TO GET
FARM HELP



HOW TO GET FARM HELP

The United States Employment Service, with its special Farm Placement Service, can help you get it.

Use this service—a free service—for your own advantage and to avoid waste of time and manpower.

This is one way you can cooperate with your Government—one way you can help win the war.

YOUR PART

Before Your Busy Season Begins—a week or two before—get in touch with the nearest office of the United States Employment Service. There are full-time offices and part-time offices in every State. If you do not know where to find the nearest one, ask at your post office. Tell the employment office just how much help you need—how many hands you can actually put to work—and the kind of experience or training needed for the work you want to have done.

Before the End of Your Season—let the employment office know when you will be ready to let your help go, so the employment office can place them somewhere else without loss of time.

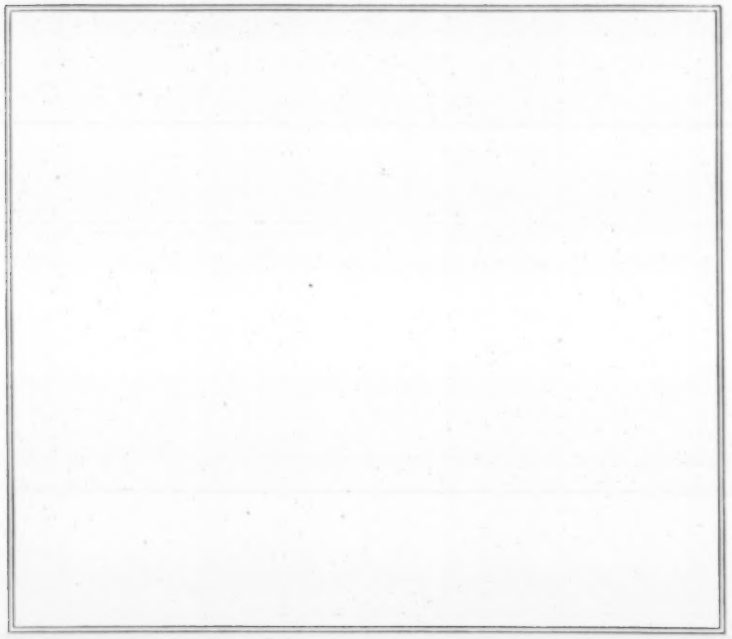
THE GOVERNMENT'S PART

The local office of the United States Employment Service will try to send you experienced hands from your own locality. If there is a local shortage of experienced help, however, the office will reach out to other sources. It may turn to the WPA, the CCC, or the NYA. It may recruit high school and college students. It may recruit women. It is in touch with the streams of migrant workers moving from job to job, with the different seasons for planting, harvesting, and processing different crops. The Nation-wide chain of employment offices makes it possible to recruit ***in*** any community where unused labor is to be found ***for*** any other community where there is work to be done.

Moreover—the Farm Placement Service of the United States Employment Service has a representative in every

State and there is a farm placement representative in each of 12 regional offices of the Service throughout the country. There will be a farm placement representative in every local employment office. Thus your local employment office can tap the labor resources of the entire Nation.

USE THE UNITED STATES EMPLOYMENT SERVICE
DEPEND UPON IT FOR THE HELP YOU NEED



FEDERAL SECURITY AGENCY
I. S. C. 45

SOCIAL SECURITY BOARD
February 1942

U. S. GOVERNMENT PRINTING OFFICE 16—27746-1

COPY

General Office
Weyerhaeuser Timber Company
Manufacturers
Weyerhaeuser Forest Products

Tacoma, Washington

December 3, 1942

U. S. Department of Labor
Women's Bureau
Washington, D.C.

Attention: Mary V. Robinson, Director
Division of Public Information

Dear Madam:

Following up your letter of November 11, which was originally addressed to our lumber division at Longview, Washington, I enclose herewith thirteen photographs illustrating women at work in the lumber industry. All of the photographs except one were used in the June, 1942 issue of THE LOG, house organ published by our Longview branch for employees. I enclose two copies of the June issue. Since all of the photographs are identified in the publication by name and type of job on pages one and three, I am assuming that you can readily compose your own captions.

One photograph not used in THE LOG is also included in those I am sending, but this one, you will note, has been given an individual caption. I am unable to identify the girl in this particular photograph.

I am also enclosing a general commentary on "Women in the Western Lumber Industry", which probably will be helpful in generally rounding out your information on the subject. This commentary should be interpreted as applying to the industry in general rather than specifically to any individual company or operation.

Very truly yours,

(Signed) Lloyd Thorpe

Miss Potter was in charge of recruiting and using women in farm work in Maine and she presented her plan to the governor and had approval

WOMEN'S BUREAU
U.S. Department of Labor
Washington, D. C.

WOMEN'S BUREAU
DEPARTMENT OF LABOR

Women's Farm Service of the State of Maine
Report of Katherine L. Potter

September 12, 1942

On May 20th I was appointed State Leader and that same day the first worker arrived. The following morning she went to work at a greenhouse where she did transplanting and caring for young plants. Within two days this employer had asked for three more girls and while we did let him have two other girls for a short time, we moved all the girls on to real farms as soon as possible.

Gas rationing had come by this time and we had to make some changes in our plans as the transportation problem was acute. We found several farmers who were interested in cooperating in this experiment and were willing to take the girls on the farms where they worked. Two girls went to a dairy farm where they worked in the cow barn and milk room entirely and two others went to a dairy farm where they did outside work, as well as some milking. Others went to the largest truck gardening area of the State, near Portland.

In the Portland area the employers are accustomed to employing day labor from Portland and have little or no facilities for housing workers. And while in normal times there would have been individuals who would house our workers today the shipyard workers have taken every available room and cabin for miles around. We finally found facilities for five workers in two houses about a mile apart.

As the girls signed up for different lengths of time we could not have the same workers through the summer but we did keep the same number of workers in that area and it worked out very well. The long term workers ran the tractor and took charge of the children working in the fields as well as preparing vegetables for market.

The farmers are most enthusiastic about the workers. They are very considerate of their strength and as one man said, "We can well afford to be; these workers give us such good service."

On the dairy farms we could not make these shifts as in the vegetable gardens, and the shortest period for a worker was six weeks. Here there were only two girls on a farm and these farms were many miles apart. Only one girl had ever had any farm experience and it was surprising what valuable service those girls could give. Two girls milked 42 cows with machines, did some of the stripping and bottled the milk for a milk route, (300 bottles a day). Others did general farm work including planting, haying, and harvesting, cultivating with a tractor and hoeing by hand.

In these two phases of farming we did most to prove the value of women's work, and the possibilities of untrained workers. Women are better known in poultry and green-house work.

The women in all this work have shown a fine spirit of patriotic service and in a few cases where the adjustment has been a bit hard, they have made the adjustment with that spirit.

We have placed the workers, as far as possible, in the type of work they wanted but we did not put anyone in a dairy who was not interested in dairy work.

It took intelligent and liberal farmers to help us in this experiment but those who did cooperate are our strongest supporters and have increased the demand for women workers far beyond anything we dreamed of. We have been asked for over 300 workers this year but we started too late in the season to find the workers and we were not prepared to house them. I have been asked to meet with the County Chairman of the U.S.D.A. War Board,

the District Agent in charge of vegetable crops, and sev ral other farmers in the market gardening area to plan for next year. This meeting to be held in October and these men are planning to solve the housing problem so that they may have a larger group of workers next year. One man told me that unless he can be assured of women workers for next year, he will reduce his acreage one-third and there are many others who will have to do likewise.

In our original plan we guaranteed $21.00 a month and maintenance which, at that time, was a soldier's pay. Later we thought the workers might be able to make more at piece work where that is the accepted method but we found that with the consideration of weather and the high cost of living we might have a heavy deficit. So we held to our plan of $21.00 a month and maintenance for the experimental period of four months to take up the matter of remuneration after we have proved that women's work is valuable and will be necessary.

Before I close with my ideas for the future, let me tell the story of how we saved 70 acres of oats. A nearby farmer, who had used some of our workers earlier in the season, asked me for two workers to help in stacking oats in the field. I had no workers available at that time but I said I would try to get some for him. A few days later his daughter called me up and said that her father had been quite badly injured and would be flat on his back for several weeks at best, and his oats must be cut or lost. He had found a neighbor who would cut the oats if in turn her father would supply workers to weed a number of acres of seed beans. I still had no workers available but I started out to find some and fortunately I could take one of my good workers for the emergency. I put her in charge of the project and with the help of five girls and one small boy working intermittently the weeding was accomplished and the oats saved.

And what for the future? This has been a very small experiment and there have been other experiments throughout the country which have probably been equally successful so that we have this experience behind us to go on with more adequate plans for the future. But all of our experience has been of a seasonal nature and that is not enough. Planting in the Northeastern States begins in April and harvesting lasts through October. Greenhousework makes the season even longer. The production of milk is not a seasonal crop but milk is vital to the welfare of the United Nations and we cannot let that production decrease but must make it increase. With poultry the need is for the year round. So we face the problem of supplying women's service throughout the year although not in the same quantity. And as conditions differ in different localities we must meet these needs. For this work it is most important to have the right type of women and to supply the necessary number we must have a large group to draw from so we cannot begin too soon to organize for this service. We must have women of character and we must have health. I will not take time here to express my theories on the organization but I will say that I believe it must be an organization that stands side by side with the WAACS and the WAVES. But we have one advantage in being able to use the short term worker, as well as the long term worker and with such an organization we can use younger girls who wish to serve their country, as well as the conscientious objectors. We will need them all.

Brief Outline of Work

From May 20th to Sept. 5, 1942 with 3 exceptions. 2 leaving Sept. 26th.
1 leaving Oct. 30th.
1 staying on indefinitely.

Workers giving from 2 to 10 weeks.

Work carried on in 4 counties. (Androscoggin, Sagadahoc, Cumberland, Kennebec.)

9 different employers.

7 different phases of farming.

General farming...weeding, hoeing, harvesting, haying and milking.
Dairy farming...milking with machines, stripping, washing bottles and bottling milk for a milk route.
Poultry farming...caring for chickens.
Market gardening..running tractor, weeding, hoeing; picking, washing and crating vegetables for local and Boston Markets.
Green-house.....transplanting, water, etc.
Short jobs.....weeding acres of seed beans, haying, etc.
Orchards.....picking and packing.

15 workers, from 18 years of age to 40.

Sources from which these workers were drawn.

3 Smith College
2 Wellesley College
2 Y.W.C.A. Boston....1 Wooster College, Tuft's (Master's Degree)
1 Western Reserve (Librarian)
2 Boston Papers.....1 Grad. Boston Sch. Phy. Ed.
1 Airplane Pilot
2 New York Herald Tribune, 1 Mem. of staff of British Consul General's office, N. Y.
1 Mem. Editorial Staff, Woman's Home Companion.
1 College and University Women's Center.....Publication Dept. of Rockefeller Institute.
1 Women's Educational and Industrial Union.....Bradford Junior College Grad.
1 U. S. Employment Service, Augusta....New Jersey Secretarial Worker.
1 Civilian Defense Bulletin, Maine.....High School Grad.

We received approximately 60 applications. Some were rejected, some found remuneration too small, some did not pass physical requirements and a few were never heard from again.

Of the workers, 1 came from Chicago; 2 from Ohio; 5 from New York, Metropolitan District; 1 from New Jersey; 5 from Massachusetts; and 1 from Maine.

Miss Robinson
To keep

August 8, 1942.

Memorandum
To: Miss Stitt
From: Rachel F. Nyswander
Re: Distribution of Special Bulletin #8, "Guides for Wartime Use of Women on Farms".

In addition to sending the bulletin to lists 143-A, (libraries), 350-R (special list of all those wanting reports the Women's Bureau issues on women in war work), and your two lists, an effort was made to obtain help on distribution of this from the library at the Department of Agriculture. Three persons were interviewed, and the following lists will receive the Women's Bureau bulletin:

37 farm periodicals
10 farm organization papers
15 agricultural student papers
14 miscellaneous periodicals, (such as Department of Agriculture bulletin reaching the extension service, some sociological periodicals, a Catholic rural life periodical, representative women's magazines, etc.

The O.C.D. asked for 50 copies for its regional offices -- as soon as the supply will permit.

The bulletin was also sent to the two advisory committees to the Women's Bureau (thus reaching women's organizations and trade unions); to the American Home Economics Association, the American Dietetics Association, the National Committee of Church Women, and the National Education Association.

Copy to Miss Robinson
" " Miss Turner

42677

OFFICE OF PRICE ADMINISTRATION OPA-19

For Immediate Release
Wednesday, June 17, 1942

Migratory farm workers, now engaged in harvest activities in many sections of the East Coast gasoline rationed area, may obtain whatever supply of gasoline they need to travel from job to job, the Office of Price Administration declared today.

OPA's statement, based on regulations governing the Emergency plan for gasoline rationing assured farmers needing the help of migratory workers during the summer season that they need not suffer hardship because of the gasoline rationing program.

Rationing regulations, OPA pointed out, provide for any supplementary rations needed for cars that must be driven in pursuit of a gainful occupation. Many migrant workers, like thousands of workers on war construction jobs throughout the East, need their cars to travel from one place of employment to another.

Application for additional supplies of gasoline for such travel should be made at a local rationing board. Under the OPA regulations, a local board is authorized to issue ration cards providing for purchase of gasoline needed for this purpose.

##########

April 25, 1942.

Miss Adela Carrillo Gantner,
2900 Vallejo Street,
San Francisco, California.

My dear Miss Gantner,

We are hastening to reply to your telegram of today requesting material on organization, legislation, and registration of women as farm labor.

You will find enclosed a copy of recommendations on women as farm workers, which the Women's Bureau has drawn up. This is not necessarily the final draft, but we thought that it would be helpful to you, since it shows the stand and standards of our bureau in regard to this type of woman labor during the emergency. We shall be glad to send you the final draft as soon as it is available.

The enclosed material from the United States Employment Service on this subject will be of interest and assistance to you. If you wish to consult further that service we suggest that you communicate with Mr. Will Denham, here in the Federal office and the supervisor of the Farm Placement Section of the San Francisco Public Employment office.

We have asked the Agricultural War Relations Section to send you available information on the use of women as farm labor, and have been assured that this will be forwarded to you.

As you probably know the State of Oregon has had a State-wide voluntary registration of women, with the idea of having their services as paid workers utilized in case of emergencies in any field of work, particularly in regard to the harvesting and canning of crops. We believe that you might secure some helpful information on that effort in Oregon by writing to Mrs. Saidie Orr Dunbar, Congress Hotel, Portland, Oregon, as she was the director of the Women Volunteers who served as the enumerators, contacting the women throughout the State. The registration as you also probably know was sponsored by the State Employment Service.

In regard to the use of women as farm workers in foreign countries we have no available information to send you today, but if we can find satisfactory references to source material we shall be glad to send such a list to you later. We were told by the Department of Agriculture that Mr. Otis Milliken, on its staff, is collecting data on women farm workers in England and Germany, and that when it is ready some time hence, he will send you a copy.

We have no very definite information on the use of women as volunteers in this field, although here in the east the American Women's Voluntary Services has been working on a plan for a Woman's Land Army. The former director of this project is Mrs. Ernest Dupuy, 2719 Dunbarton Avenue, Washington. Though she has severed her connection with the A.W.V.S. we understand that she is still greatly interested in trying to build up such an army in the eastern part of the country. We feel sure that she would be glad to give you the benefit of her experience and efforts.

Yours sincerely,

Mary Anderson, Director.

MVR
/ll
Encl.

Robinson

Rates p. 2
per p. 26
p. 38

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

FARM LABOR REPORT

Release
3:00 P.M. (E.W.T.)

Washington, D. C. April 16, 1942

sample study
41,497 farmers

FARM EMPLOYMENT SLIGHTLY UNDER YEAR AGO

There were 97,000 fewer persons employed on farms April 1 this year than last; and the index of farm wage rates was 28 percent higher than on April 1 last year, the U.S. Department of Agriculture reported today.

The Department said the decreased employment was entirely in farm family labor, however, and attributed it principally to the delay in spring planting as a result of unfavorable weather. Although competition from other industries for available labor has also tended to hold down farm employment this spring, there was a slight increase in the number of hired workers on farms. There are many indications that farmers are producing more this year than last, in spite of the decrease in employment of family workers.

A total of 9,483,000 persons were employed on farms on April 1. This was 745,000 more than the number on March 1 but slightly less than the usual seasonal increase. The index of farm employment rose from 73 on March 1 to 79 percent of the 1910-14 average on April 1. Since January 1, the index of farm employment went up 10 points, as compared with the usual seasonal rise of about 13 points.

The decrease in employment as compared with April 1 last year was confined almost entirely to the West South Central States. Employment was about the same or higher in all other regions.

SPECIAL TO THIS ISSUE

	Page
Total employment in United States, by months, 1934 to date	8
Farm employment, United States and geographic divisions, by months, 1934 to date	9-18
Farm employment, by States, April 1, 1942	19
Work status of farm population	25
Age and sex of farm workers	26
Changes in farm labor supply, 1920-42	27-28
Wage rates and farm labor supply, index numbers, 1920-41	29-30
Farm labor supply reported by crop correspondents, April 1, 1940-41	31-32
Data used to estimate index numbers of farm labor supply, 1920-42	33

To meet the sharp competition from other industries, farmers made more than the usual seasonal increase in farm wage rates during the past month. The change in rates affected many areas. The wage index on April 1 climbed to 177 percent of the 1910-14 average and was 39 points higher than on April 1 last year. During March alone, wage rates jumped 10 points. This raised the index on April 1 of this year to the highest level recorded since October 1929.

The increases in wage rates were fairly general throughout the country. Day rates without board averaged $2.10 on the first of April of this year, compared with $1.70 a year ago. Rates per month without board averaged approximately $51.00 on the first of this month, but varied from a low of less than $30.00 per month in a few of the southeastern States to $97.00 per month in California.

FARM PRODUCTION CONTINUES HIGH

The sharp increases in farm wage rates appear to be holding the total number of hired farm workers at a little higher level than a year ago. Although this was insufficient to offset the decline in family workers, available data on farm production show substantial increases in many lines over the high levels of a year earlier. More milk was produced in the United States on the first of this month than on any other April 1 in the Nation's history. Eggs laid per 100 hens reached the highest April 1 total since 1938. Livestock slaughter under Federal inspection at 27 selected centers during the week ended April 4 was 13 percent higher than in the corresponding week last year. Carlot shipments of fruit and truck crops were up 12 and 10 percent, respectively. Farmers now plan an increase of 3 to 4 percent in the total crop acreage over last year. These increases in agricultural production are being made, however, as a result of longer hours of work, and a general change in the farm work force to include more and more farmers' wives and children. Some needed maintenance work is being neglected and many less pressing tasks are being left undone.

Spring Work Increases Labor Load

Despite the continuation of wet weather in large areas during the last week of March, the tempo of farm activity had speeded up considerably by April 1, compared with a month earlier. Maple sugaring was in full swing in New York and northern New England. Spring work was somewhat late in New Jersey but the first week of April was rather favorable for plowing and planting, with potato planting going ahead at full speed in the southern and central portions of the State. Snow of record-breaking depths delayed field work in Pennsylvania.

Farmers in most of the East North Central States had made but little progress with spring work up to April 1 with heavy precipitation and wet fields interfering with spring plowing in many areas. Oat seeding made little progress. The last of March also was cold, wet, and stormy in the West North Central States, with little field work accomplished except in southern Kansas where oat and barley seeding was about completed. Corn planting also had started in this State, however, in early April.

In the southeast, farm work was progressing more normally on April 1. Heavy snows stopped field work in the central and western parts of Maryland, but early peas and potatoes were being planted on the Eastern Shore. Spinach was being harvested in the Norfolk section of Virginia with the labor supply temporarily short and wage rates increased to as much as 10 cents per bushel basket. This increase soon attracted additional workers, however, and farmers reduced rates before the end of the week. Farmers in other parts of Virginia were plowing preparatory to planting corn, cotton, tobacco, and other spring crops. Corn and cotton planting had begun by April 1 in the Carolinas and asparagus shipments from South Carolina started during the week.

Florida Farm Activity Slackens

Florida farmers reported some slackening in farm activity around the first of April as compared with a month earlier. The weather improved during the latter part of March, enabling growers in the upper part of the State to finish their spring seeding. A fair volume of fruit and vegetables was being harvested in southern and central Florida on April 1, although citrus marketings were already showing a seasonal decline. The usual upward trend in vegetable marketings did not materialize by April 1 as the result of unfavorable weather during the first quarter of 1942. Replanted crops on the lower East Coast are now coming into bearing but heavy shipments of truck crops from the important Everglades area are not likely until the latter part of this month. Transient labor was on the way to north Florida and Georgia to plant peanuts and tobacco.

As in the North Central Division, March rains also retarded farm work in the East South Central States. Corn was being planted on April 1 in most parts of Alabama, however, and cotton planting was proceeding in the southern part of the State. In southeast Alabama, women and children were shelling peanuts and the land was being prepared for planting.

Progress on seasonal farm work in the West South Central States was irregular during March and seasonal changes in farm employment lagged far behind normal. Arkansas weather was generally favorable to field operations during early April, and plowing and other preparations for spring planting were in full swing. In

Louisiana, however, these same operations were retarded by too much rain and wet soil. In Oklahoma farm work progressed rapidly and corn was being planted over most of the State. In Texas, on the other hand, April 1 fell somewhat in between seasons of farm activity. Much of the preparations for spring planting had been completed, and farmers in a large dry area were inclined to wait for much needed rains before putting this crops in the ground. The harvests of winter commercial vegetables and citrus fruits were tapering off on April 1, while the onion and other spring vegetable harvest had not started.

Farming is starting late in most of the Rocky Mountain States. Preparation for early planted crops was quite common in southern Idaho on April 1, although snow had not yet left the higher land in the eastern part of the State. Lambing also was under way, as well as in other Range States. Planting of sugar beets had started by April 1 in a few localities in Colorado, but snow temporarily stopped field work in many areas. Spring planting was proceeding satisfactorily in New Mexico with increased tractor work making up for a large part of the decline in the labor supply. In Arizona, the demand for farm labor had dropped somewhat by the first of this month as marketings of truck crops fell off seasonally and the more mechanized field crop planting work failed to take up the slack. Spring plowing and seeding were under way in Utah and Nevada on April 1, but no particular stringency in the current labor supply situation was apparent.

Cold, freezing weather delayed spring work in the Pacific Northwest during the latter part of March, but satisfactory progress was made during early April in Washington. Plowing, seeding, pruning, and spraying was quite general in Oregon during the week ended April 7. Cotton planting has been delayed in California. The harvest of avocadoes, grapefruit, lemons, asparagus, and other truck crops continued in that State on the first of the month.

SUPPLY OF FARM LABORERS DOWN

Aside from the weather, farm work did not appear to be hindered materially by other factors on April 1, although reports from crop correspondents indicated a supply of farm labor only 61 percent of normal. This was about 14 points lower than a year earlier. The demand for farm labor was reported by farmers to have averaged 98 percent of normal on April 1, compared with 92 percent at this time a year ago. Relative to the existing demand, the supply of labor available for farm work for the country as a whole averaged 63 percent of normal at the beginning of this month and was lower than the supply-demand ratio of a year ago by 24 percent.

Farm reporters were asked to report the present farm labor supply and demand at current wage rates as a percentage of the normal supply and demand at this season. The reports thus obtained reflect the individual reporter's appraisal of the current supply and demand situation in his locality in relation to what he believes to be the usual or normal condition. The Department has gathered reports of this nature at regular intervals for many years, since 1918 in the case of the April reports.

Because of the great difficulty of estimating the actual number of workers available for farm employment, the reported farm labor supply as a percentage of normal has provided the only available guide as to the direction and extent of

Continued on page 34

Farm wage rates and related data, United States, April 1, 1942, with comparisons

	Annual average 1910-14	Jan. 1, 1941	Apr. 1, 1941	Jan. 1, 1942	Mar. 1, 1942	Apr. 1, 1942
FARM WAGE RATE INDEXES:						
Unadjusted	100	124	138	166	167	177
Seasonally adjusted	100	129	141	173	173	181
FARM WAGE RATES:						
Per month, with board	$ 22.09	26.88	31.56	37.08	37.43	41.47
Per month, without board	29.18	36.61	40.44	47.77	48.98	50.90
Per day, with board	1.16	1.29	1.41	1.77	1.72	1.83
Per day, without board	1.42	1.59	1.70	2.12	2.08	2.10
FARM SUPPLY AND DEMAND:						
Supply, percentage of normal	---	85.7	75.6	64.2	---	61.4
Demand, percentage of normal	---	86.6	92.4	94.1	---	98.1
Supply, percentage of demand 1/	---	99.1	81.8	68.2	---	62.6
FARM EMPLOYMENT INDEXES: 7/						
Total -						
Unadjusted	100	70	79	69	73	79
Seasonally adjusted	100	86	82	85	83	82
Family labor -						
Unadjusted	100	74	83	72	76	82
Seasonally adjusted	100	88	85	86	84	84
Hired labor -						
Unadjusted	100	56	69	57	62	70
Seasonally adjusted	100	80	73	81	78	74
FARM EMPLOYMENT: 7/ (Thousands of persons)						
Total	12,052	8,428	9,580	8,287	8,738	9,483
Family labor	9,160	6,807	7,589	6,632	6,940	7,473
Hired labor	2,892	1,621	1,991	1,655	1,798	2,010
RELATED INDEXES:						
Prices received by farmers 2/	100	104	110	149	3/146	---
Ratio of prices received to farm wage rates	100	84	80	90	87	---
Industrial wage rates 4/	---	237	248	282	---	---
Industrial employment 5/	---	115	118	132	6/134	---
Industrial pay rolls 5/	---	121	127	173	6/178	---

1/When ratio is below 100, this does not necessarily indicate a shortage of labor in areas where farmers have ordinarily had at their disposal more than was necessary to handle current crop output. 2/Average of 15th of given month and 15th of previous month. 3/Latest data available. 4/Average weekly earnings, New York State factories, June 1914 = 100. 5/Bureau of Labor Statistics indexes for manufacturing industries adjusted to the 1939 census of manufactures 1923-25 = 100. 6/Feb. 1942 - latest date available. 7/ Revised.

Based on data from approximately 66,364 reports from farmers. The data for previous quarters, by States, appear in Crops and Markets for Jan., Apr., July, and Oct.

Farm wage rates by geographic divisions,
April 1, 1942, with comparisons

Geographic division	Annual average 1910-14	Jan. 1, 1941	Apr. 1, 1941	Jan. 1, 1942	Mar. 1, 1942	Apr. 1, 1942
FARM WAGE RATES	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Per month with board						
New England	24.18	34.29	37.63	47.70	45.10	52.08
Middle Atlantic	22.25	29.74	33.72	40.17	40.59	44.56
East North Central	23.75	28.22	34.20	38.71	39.48	44.52
West North Central	26.32	24.39	32.29	33.72	33.98	45.16
South Atlantic	14.62	18.26	19.03	22.34	23.48	23.96
East South Central	14.71	16.94	17.92	21.69	20.89	22.48
West South Central	17.35	20.24	21.41	28.20	28.37	29.12
Mountain	32.48	34.33	33.34	45.13	46.44	51.60
Pacific	33.45	43.45	48.30	62.33	61.87	66.58
Per month without board						
New England	37.70	58.31	63.05	75.37	75.31	82.19
Middle Atlantic	33.41	46.70	52.31	59.53	64.61	67.27
East North Central	32.80	40.52	47.01	53.16	55.76	59.84
West North Central	36.86	35.70	43.39	46.93	49.72	58.24
South Atlantic	20.97	27.00	27.97	32.90	35.09	35.54
East South Central	20.80	24.30	25.15	30.10	30.08	31.25
West South Central	24.93	28.76	30.10	38.50	37.64	39.13
Mountain	46.42	50.45	55.07	62.46	63.46	73.07
Pacific	48.16	66.51	71.32	87.39	86.37	94.88
Per day with board						
New England	1.27	1.84	1.93	2.57	2.66	2.67
Middle Atlantic	1.24	1.78	1.88	2.31	2.33	2.42
East North Central	1.31	1.57	1.75	2.16	2.07	2.32
West North Central	1.46	1.34	1.55	1.94	1.85	2.14
South Atlantic	.81	.97	.99	1.19	1.16	1.22
East South Central	.81	.83	.86	1.05	1.00	1.06
West South Central	.98	1.01	1.02	1.43	1.39	1.42
Mountain	1.50	1.56	1.75	2.16	2.13	2.39
Pacific	1.49	2.01	2.20	2.86	2.87	3.01
Per day without board						
New England	1.71	2.67	2.85	3.43	3.38	3.60
Middle Atlantic	1.63	2.41	2.53	3.02	3.02	3.19
East North Central	1.68	2.05	2.27	2.73	2.67	2.91
West North Central	1.88	1.86	2.09	2.53	2.49	2.81
South Atlantic	1.05	1.27	1.28	1.56	1.52	1.56
East South Central	1.05	1.07	1.11	1.36	1.34	1.37
West South Central	1.25	1.27	1.30	1.78	1.72	1.72
Mountain	2.05	2.22	2.38	2.79	2.80	3.04
Pacific	2.06	2.74	2.94	3.64	3.61	3.88

Farm labor supply, demand, and farm employment, April 1, 1942
with comparisons

	Jan.1 1940	Apr.1 1940	Jan.1 1941	Apr.1 1941	Jan.1 1942	Apr.1 1942
SUPPLY OF FARM LABOR (Percentage of normal)						
New England	91.9	91.6	78.7	68.6	56.1	52.4
Middle Atlantic	91.2	90.8	80.6	67.3	57.1	52.6
East North Central	94.7	93.4	86.9	73.2	63.5	60.0
West North Central	95.6	95.0	91.4	79.7	66.4	62.2
South Atlantic	87.5	86.0	80.8	70.2	62.0	61.2
East South Central	88.9	87.9	84.3	77.7	67.6	62.8
West South Central	92.6	91.0	85.3	78.7	66.5	64.5
Mountain	99.8	98.8	91.6	83.3	67.8	62.9
Pacific	102.6	101.5	93.0	81.9	65.7	65.3
DEMAND FOR FARM LABOR (Percentage of normal)						
New England	86.7	87.3	89.9	97.1	94.9	101.8
Middle Atlantic	82.4	86.2	88.2	95.2	92.8	99.9
East North Central	84.8	86.2	89.7	95.6	96.6	101.5
West North Central	77.8	81.5	85.9	93.5	95.4	99.4
South Atlantic	85.1	87.4	89.0	92.3	93.6	98.4
East South Central	80.8	86.2	85.0	91.7	95.4	99.0
West South Central	72.1	77.8	80.6	85.9	90.5	92.4
Mountain	81.9	82.5	85.6	90.9	94.0	99.6
Pacific	82.7	85.8	88.5	94.4	96.2	97.0

Persons employed in the United States, March 1942
with comparisons

	Jan., 1941	Feb., 1941	Mar., 1941	Jan., 1942	Feb., 1942	Mar., 1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
Farm employment 1/	8,476	8,649	9,178	8,414	8,639	9,110
Family workers	6,790	6,902	7,310	6,644	6,797	7,206
Hired workers	1,686	1,747	1,868	1,770	1,842	1,904
Nonagricultural employment 2/ 3/	37,142	37,448	37,761	39,871	3/39,842	-
Total employment 3/	45,618	46,097	46,939	48,285	3/48,481	-

1/Average of estimates of farm employment as of the first of the given and the following month.
2/Estimates of the Bureau of Labor Statistics, U.S.Dept. of Labor. Excludes persons employed on W.P.A. or N.Y.A. projects, enrollees in C.C.C. Camps, and military and naval forces.
3/Preliminary revision.

Number of persons employed in the United States, by months, 1934 to date

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
				FARM EMPLOYMENT 1/					
Jan...	9,188	9,219	9,176	8,901	8,695	8,632	8,555	8,476	8,414
Feb...	9,462	9,505	9,484	9,163	8,962	8,955	8,753	8,649	8,639
Mar...	10,205	10,099	10,172	9,734	9,643	9,566	9,313	9,178	
Apr...	11,279	11,107	11,157	10,719	10,727	10,636	10,261	10,132	
May...	12,218	12,236	12,170	11,946	11,818	11,903	11,414	11,184	
June..	12,625	12,676	12,499	12,505	12,414	12,460	12,165	11,807	
July..	11,731	12,296	11,839	11,919	11,953	11,914	11,870	11,534	
Aug...	11,118	11,913	11,840	11,645	11,620	11,700	11,580	11,280	
Sept..	11,662	12,091	12,407	12,182	12,084	12,140	11,959	11,704	
Oct...	11,418	12,106	11,822	12,066	11,851	11,627	11,686	11,369	
Nov...	10,108	10,844	10,519	10,670	10,570	10,284	10,400	10,088	
Dec...	9,278	9,458	9,361	9,152	9,175	9,049	9,009	8,857	
Ave..	10,858	11,129	11,037	10,884	10,794	10,739	10,580	10,355	
				NONAGRICULTURAL EMPLOYMENT 2/					
Jan...	29,191	30,667	32,145	34,619	33,388	33,616	35,195	37,142	39,871
Feb...	29,628	30,938	32,251	34,935	33,274	33,774	35,096	37,448	3/39,842
Mar...	30,229	31,277	32,708	35,449	33,292	34,075	35,296	37,761	
Apr...	30,655	31,636	33,295	35,772	33,412	34,157	35,321	38,228	
May...	31,039	31,730	33,715	36,102	33,136	34,468	35,606	38,902	
June..	31,110	31,811	34,002	36,195	33,072	34,949	35,881	39,475	
July..	30,977	31,893	34,245	36,291	33,086	34,969	35,904	39,912	
Aug...	31,067	32,231	34,570	36,444	33,492	35,282	36,367	40,289	
Sept..	30,940	32,652	35,061	36,631	34,084	35,939	37,005	40,715	
Oct...	31,183	32,899	35,251	36,388	34,208	36,302	37,375	40,776	
Nov...	30,952	32,717	35,154	35.519	34,175	36,191	37,528	40,749	
Dec...	31,145	32,917	35,470	34,936	34,521	36,468	38,161	41,073	
Ave..	30,676	31,947	33,989	35,773	33,595	35,016	36,228	39,372	
				TOTAL EMPLOYMENT					
Jan...	38,379	39,886	41,321	43,520	42,083	42,248	43,750	45,618	48,285
Feb...	39,090	40,443	41,735	44,098	42,236	42,729	43,849	46,097	3/48,481
Mar...	40,434	41,376	42,880	45,183	42,935	43,641	44,609	46,939	
Apr...	41,934	42,743	44,452	46,491	44,139	44,793	45,582	48,360	
May...	43,257	43,966	45,885	48,048	44,954	46,371	47,020	50,086	
June..	43,735	44,487	46,501	48,700	45,486	47,409	48,046	51,282	
July..	42,708	44,189	46,084	48,210	45,049	46,883	47,774	51,446	
Aug...	42,185	44,144	46,410	48,089	45,112	46,982	47,947	51,569	
Sept..	42,602	44,743	47,468	48,813	46,168	48,079	48,964	52,419	
Oct...	42,601	45,005	47,073	48,454	46,059	47,929	49,061	52,145	
Nov...	41,060	43,561	45,673	46,189	44,745	46,475	47,928	50,837	
Dec...	40,423	42,375	44,831	44,088	43,696	45,517	47,170	49,930	
Ave..	41,534	43,076	45,026	46,657	43,389	45,755	46,808	49,727	

1/ Average of estimates of farm employment as of the first of the given and the following months.
2/ Estimates of the Bureau of Labor Statistics, United States Department of Labor, as revised December 1941. Excludes persons employed on W.P.A. or N.Y.A. projects or enrollees in C.C.C. camps, and Military and navel forces.
3/ Preliminary.

Farm Employment: Number of Persons Employed on the First of Each Month, United States, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
TOTAL EMPLOYMENT									
Jan.	9,044	9,099	9,062	8,822	8,617	8,569	8,543	8,428	8,287
Feb.	9,333	9,339	9,290	8,930	8,773	8,695	8,568	8,524	8,540
Mar.	9,592	9,671	9,678	9,346	9,151	9,214	8,939	8,775	8,738
Apr.	10,818	10,527	10,666	10,122	10,135	9,917	9,686	9,580	9,433
May	11,740	11,608	11,648	11,317	11,319	11,355	10,836	10,683	
June	12,695	12,704	12,693	12,576	12,316	12,451	11,991	11,685	
July	12,551	12,569	12,306	12,433	12,511	12,470	12,338	11,929	
Aug.	10,911	12,023	11,372	11,405	11,415	11,359	11,403	11,138	
Sept.	11,325	11,804	12,309	11,884	11,826	12,040	11,757	11,421	
Oct.	12,000	12,378	12,505	12,480	12,342	12,241	12,161	11,988	
Nov.	10,835	11,833	11,139	11,652	11,360	11,013	11,211	10,749	
Dec.	9,381	9,855	9,099	9,688	9,781	9,555	9,590	9,428	
Average	10,852	11,131	11,047	10,892	10,796	10,740	10,585	10,361	
FAMILY WORKERS									
Jan.	7,355	7,484	7,420	7,069	6,878	6,943	6,967	6,807	6,632
Feb.	7,495	7,571	7,434	7,086	6,935	6,911	6,919	6,774	6,655
Mar.	7,739	7,775	7,736	7,363	7,248	7,339	7,171	7,031	6,940
Apr.	8,506	8,450	8,158	7,853	7,885	7,808	7,676	7,509	7,473
May	9,174	9,299	9,000	8,665	8,676	8,710	8,353	8,260	
June	9,797	9,906	9,664	9,504	9,387	9,352	9,074	8,829	
July	9,621	9,597	9,374	9,278	9,226	9,122	9,041	8,721	
Aug.	8,468	9,107	8,600	8,360	8,295	8,296	8,264	8,082	
Sept.	8,777	9,031	9,099	8,774	8,596	8,800	8,548	8,254	
Oct.	9,168	9,471	9,350	9,175	8,993	8,961	8,774	8,567	
Nov.	8,421	9,004	8,413	8,642	8,468	8.188	8,203	7,920	
Dec.	7,556	7,645	7,585	7,366	7,520	7,307	7,237	7,113	
Average	8,506	8,702	8,486	8,261	8.176	8,145	8,019	7,829	
HIRED WORKERS									
Jan.	1,689	1,615	1,642	1,753	1,739	1,626	1,576	1,621	1,655
Feb.	1,838	1,768	1,856	1,894	1,838	1,784	1,649	1,750	1,885
Mar.	1,853	1,896	1,942	1,983	1,903	1,875	1,768	1,744	1,798
Apr.	2,312	2,077	2,508	2,269	2,250	2,109	2,010	1,991	2,010
May	2,566	2,389	2,648	2,652	2,643	2,645	2,483	2,423	
June	2,898	2,798	3,029	3,072	2,929	3,099	2,917	2,856	
July	2,930	2.972	2,932	3,155	3,285	3,348	3,297	3,208	
Aug.	2,443	2,916	2,772	3,045	3,120	3,063	3,139	3,056	
Sept.	2,548	2,773	3,210	3,110	3,230	3,240	3,209	3,167	
Oct.	2,832	2,907	3,155	3,305	3,349	3,280	3,387	3,421	
Nov.	2,414	2,829	2,726	3,010	2,892	2,825	3,008	2,829	
Dec.	1,825	2,210	2,314	2,322	2,261	2,248	2,353	2,315	
Average	2,346	2,429	2,561	2,631	2,620	2,595	2,566	2,532	

Farm Employment: Number of Persons Employed on the First of Each Month, New England, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
TOTAL EMPLOYMENT									
Jan.	232	216	215	224	203	209	214	204	210
Feb.	227	228	221	233	211	214	214	212	213
Mar.	231	229	231	233	221	224	215	221	211
Apr.	251	236	238	251	246	228	225	223	229
May	260	255	251	255	248	245	249	237	
June	280	268	283	275	265	277	271	264	
July	303	281	284	275	279	290	282	291	
Aug.	293	307	289	290	286	311	305	290	
Sept.	256	257	291	281	280	303	289	275	
Oct.	264	254	266	280	284	281	284	272	
Nov.	247	250	247	251	259	252	251	243	
Dec.	227	223	221	223	253	236	235	231	
Average	256	250	253	256	253	256	253	247	
FAMILY WORKERS									
Jan.	163	154	151	150	144	147	155	147	151
Feb.	162	154	154	154	145	146	151	147	152
Mar.	164	160	158	155	151	152	156	155	152
Apr.	173	163	162	164	160	157	162	157	161
May	175	166	164	160	162	160	159	154	
June	187	178	170	170	159	164	165	166	
July	201	182	180	176	163	171	168	171	
Aug.	194	195	175	171	162	185	170	166	
Sept.	175	166	180	168	160	185	165	163	
Oct.	171	160	162	172	172	173	163	162	
Nov.	170	159	156	161	159	163	164	163	
Dec.	162	154	153	153	157	161	160	154	
Average	175	166	164	163	158	164	162	159	
HIRED WORKERS									
Jan.	69	62	64	74	59	62	59	57	59
Feb.	65	74	67	79	66	68	63	65	61
Mar.	67	69	73	78	70	72	59	66	59
Apr.	78	73	76	87	86	71	63	66	68
May	85	89	87	95	86	85	90	83	
June	93	90	113	105	106	113	106	98	
July	102	99	104	99	116	119	114	120	
Aug.	99	112	114	119	124	126	135	124	
Sept.	81	91	111	113	120	118	124	112	
Oct.	93	94	104	108	112	108	121	110	
Nov.	77	91	91	90	100	89	87	80	
Dec.	65	69	68	70	96	75	75	77	
Average	81	84	89	93	95	92	91	88	

Farm Employment: Number of Persons Employed on the First of Each Month, Middle Atlantic, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
TOTAL EMPLOYMENT									
Jan.	537	522	521	533	507	525	498	495	497
Feb.	554	539	539	547	520	545	512	494	499
Mar.	551	562	564	554	541	550	523	503	522
Apr.	596	605	613	578	597	578	563	558	575
May	636	631	631	601	651	642	627	615	
June	643	661	645	620	673	658	655	634	
July	705	714	685	703	736	777	772	754	
Aug.	676	746	705	724	749	740	810	743	
Sept.	637	654	672	695	698	718	754	723	
Oct.	634	648	660	674	686	692	693	705	
Nov.	612	644	622	623	627	652	658	637	
Dec.	555	559	559	548	585	587	596	584	
Average	611	624	618	617	631	639	638	620	
FAMILY WORKERS									
Jan.	397	393	390	390	372	385	379	367	377
Feb.	400	398	390	389	377	389	380	363	359
Mar.	397	411	409	394	388	406	391	369	382
Apr.	408	423	416	404	414	411	413	408	414
May	419	431	424	402	416	419	422	413	
June	422	455	432	406	421	422	418	408	
July	455	468	458	447	441	476	475	466	
Aug.	446	476	456	452	436	466	478	453	
Sept.	421	435	432	445	413	457	467	438	
Oct.	402	429	414	404	418	427	422	423	
Nov.	403	424	394	397	402	415	424	416	
Dec.	397	391	392	385	400	398	401	392	
Average	414	428	417	410	408	423	422	409	
HIRED WORKERS									
Jan.	140	129	131	143	135	140	119	128	120
Feb.	154	141	149	158	143	156	132	131	140
Mar.	154	151	155	160	153	144	132	134	140
Apr.	188	182	197	174	183	167	150	150	161
May	217	200	207	199	235	223	205	202	
June	221	206	213	214	252	236	237	226	
July	250	246	227	256	295	301	297	288	
Aug.	230	270	249	272	313	274	332	290	
Sept.	216	219	240	250	285	261	287	285	
Oct.	232	219	246	270	268	265	271	282	
Nov.	209	220	228	226	225	237	234	221	
Dec.	158	168	167	163	185	189	195	192	
Average	197	196	201	207	223	216	216	211	

Farm Employment: Number of Persons Employed on the First of Each Month,
East North Central States, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
				TOTAL EMPLOYMENT					
Jan....	1,327	1,339	1,339	1,318	1,292	1,293	1,253	1,224	1,226
Feb....	1,360	1,360	1,364	1,318	1,306	1,291	1,255	1,208	1,251
Mar....	1,366	1,386	1,397	1,353	1,343	1,322	1,302	1,258	1,275
Apr....	1,462	1,517	1,540	1,462	1,457	1,427	1,383	1,376	1,382
May....	1,553	1,581	1,576	1,525	1,572	1,533	1,498	1,477	
June...	1,586	1,617	1,618	1,605	1,616	1,563	1,550	1,498	
July...	1,638	1,686	1,662	1,626	1,704	1,619	1,597	1,589	
Aug....	1,521	1,711	1,605	1,633	1,639	1,588	1,629	1,565	
Sept...	1,506	1,595	1,611	1,551	1,576	1,544	1,555	1,488	
Oct....	1,515	1,542	1,555	1,558	1,570	1,531	1,513	1,463	
Nov....	1,498	1,602	1,506	1,528	1,529	1,500	1,503	1,459	
Dec....	1,390	1,451	1,439	1,400	1,411	1,409	1,391	1,430	
Average	1,477	1,532	1,518	1,490	1,501	1,468	1,452	1,419	
				FAMILY WORKERS					
Jan....	1,116	1,112	1,105	1,079	1,060	1,076	1,055	1,020	1,027
Feb....	1,129	1,115	1,107	1,066	1,072	1,063	1,052	1,005	1,035
Mar....	1,138	1,135	1,138	1,100	1,108	1,087	1,084	1,051	1,068
Apr....	1,171	1,208	1,175	1,154	1,165	1,156	1,132	1,122	1,135
May....	1,206	1,227	1,187	1,184	1,218	1,204	1,165	1,171	
June...	1,233	1,260	1,212	1,215	1,241	1,211	1,198	1,188	
July...	1,245	1,278	1,239	1,221	1,276	1,224	1,216	1,190	
Aug....	1,189	1,251	1,225	1,213	1,218	1,208	1,215	1,194	
Sept...	1,179	1,213	1,217	1,185	1,210	1,187	1,210	1,172	
Oct....	1,149	1,164	1,157	1,148	1,160	1,153	1,140	1,123	
Nov....	1,147	1,177	1,126	1,138	1,153	1,132	1,150	1,146	
Dec....	1,109	1,116	1,111	1,085	1,119	1,104	1,095	1,121	
Average	1,168	1,188	1,167	1,149	1,167	1,150	1,142	1,125	
				HIRED WORKERS					
Jan....	211	227	234	239	232	217	198	204	199
Feb....	231	245	257	252	234	228	203	203	216
Mar....	228	251	259	253	235	235	218	207	207
Apr....	291	309	365	308	292	271	251	254	247
May....	347	354	389	341	354	329	333	306	
June...	353	357	406	390	375	352	352	310	
July...	393	408	423	405	428	395	381	399	
Aug....	332	460	380	420	421	380	414	371	
Sept...	327	382	394	366	366	357	345	316	
Oct....	366	378	398	410	410	378	373	340	
Nov....	351	425	380	390	376	368	353	313	
Dec....	281	335	328	315	292	305	296	309	
Average	309	344	351	341	334	318	310	294	

Farm Employment: Number of Persons Employed on the First of Each Month, West North Central, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
				TOTAL EMPLOYMENT					
Jan.	1,473	1,447	1,462	1,387	1,382	1,394	1,417	1,406	1,408
Feb.	1,524	1,489	1,483	1,424	1,392	1,405	1,438	1,417	1,448
Mar.	1,521	1,522	1,511	1,447	1,411	1,447	1,451	1,447	1,444
Apr.	1,662	1,636	1,656	1,535	1,562	1,542	1,549	1,539	1,523
May	1,750	1,740	1,750	1,659	1,632	1,691	1,674	1,697	
June	1,839	1,859	1,858	1,778	1,717	1,757	1,792	1,782	
July	1,904	1,951	1,955	1,932	1,873	1,836	1,909	1,925	
Aug.	1,793	2,011	1,846	1,876	1,894	1,828	1,871	1,880	
Sept.	1,696	1,820	1,824	1,776	1,741	1,794	1,786	1,789	
Oct.	1,669	1,752	1,753	1,690	1,726	1,705	1,746	1,723	
Nov.	1,609	1,801	1,625	1,691	1,686	1,664	1,709	1,632	
Dec.	1,467	1,586	1,556	1,484	1,561	1,555	1,553	1,556	
Average	1,658	1,718	1,690	1,640	1,632	1,635	1,658	1,649	
				FAMILY WORKERS					
Jan.	1,244	1,257	1,254	1,199	1,194	1,212	1,234	1,210	1,205
Feb.	1,268	1,268	1,262	1,219	1,197	1,213	1,249	1,217	1,213
Mar.	1,271	1,288	1,276	1,232	1,207	1,245	1,255	1,243	1,236
Apr.	1,346	1,353	1,334	1,283	1,288	1,292	1,296	1,292	1,280
May	1,385	1,405	1,390	1,351	1,323	1,366	1,348	1,347	
June	1,455	1,472	1,472	1,426	1,379	1,415	1,439	1,415	
July	1,476	1,515	1,506	1,492	1,444	1,434	1,480	1,470	
Aug.	1,411	1,479	1,441	1,403	1,401	1,387	1,419	1,427	
Sept.	1,338	1,393	1,432	1,365	1,346	1,394	1,380	1,376	
Oct.	1,311	1,362	1,386	1,307	1,352	1,326	1,343	1,331	
Nov.	1,281	1,383	1,314	1,310	1,331	1,299	1,325	1,296	
Dec.	1,237	1,279	1,297	1,221	1,282	1,275	1,271	1,263	
Average	1,335	1,371	1,364	1,317	1,312	1,322	1,337	1,324	
				HIRED WORKERS					
Jan.	229	190	208	188	188	182	183	196	203
Feb.	256	221	221	205	195	192	189	200	235
Mar.	250	234	235	215	204	202	196	204	208
Apr.	316	283	322	252	274	250	253	247	243
May	365	335	360	308	309	325	326	350	
June	384	387	386	352	338	342	353	367	
July	428	436	449	440	429	402	429	455	
Aug.	382	532	405	473	493	441	452	453	
Sept.	358	427	392	411	398	400	406	413	
Oct.	358	390	367	383	374	379	403	392	
Nov.	328	418	311	381	355	365	384	336	
Dec.	230	307	259	263	279	280	282	293	
Average	323	347	326	323	320	313	321	325	

Farm Employment: Number of Persons Employed on the First of Each Month, South Atlantic, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
TOTAL EMPLOYMENT									
Jan.	1,641	1,725	1.681	1,651	1,611	1,545	1,546	1,514	1,459
Feb.	1,715	1,746	1,760	1,720	1,661	1,601	1,556	1,568	1,525
Mar.	1,803	1,875	1,891	1,808	1,789	1,808	1,712	1,668	1,655
Apr.	2,158	2,054	2,117	2,005	1,994	1,986	1,867	1,791	1,805
May	2,396	2,298	2,363	2,309	2,329	2,388	2,147	2,077	
June	2,638	2,686	2,547	2,627	2,569	2,618	2,389	2,351	
July	2,613	2,597	2,483	2,503	2,525	2,449	2,424	2,235	
Aug.	2,161	2,452	2,358	2,245	2,280	2,219	2,115	2,064	
Sept.	2,197	2,366	2,486	2,309	2,270	2,295	2,388	2,119	
Oct.	2,414	2,488	2,522	2,471	2,403	2,370	2,339	2,216	
Nov.	2,126	2,386	2,302	2,274	2,147	2,088	2,134	1,948	
Dec.	1,739	1,789	1,946	1,796	1,753	1,724	1,678	1,653	
Average	2,133	2,205	2,205	2,143	2,109	2,091	2,025	1,934	
FAMILY WORKERS									
Jan.	1,306	1,357	1,343	1,282	1,236	1,218	1,215	1,174	1,131
Feb.	1,339	1,340	1,356	1,298	1,256	1,227	1,205	1,181	1,135
Mar.	1,408	1,420	1,455	1,356	1,362	1,373	1,300	1,287	1,254
Apr.	1,660	1,581	1,583	1,495	1,517	1,505	1,420	1,365	1,386
May	1,865	1,783	1,793	1,707	1,762	1,751	1,629	1,576	
June	2,019	2,016	1,917	1,970	1,977	1,954	1,817	1,794	
July	1,995	1,977	1,892	1,908	1,910	1,849	1,837	1,721	
Aug.	1,703	1,924	1,797	1,726	1,713	1,700	1,598	1,576	
Sept.	1,720	1,812	1,842	1,732	1,688	1,733	1,771	1,573	
Oct.	1,805	1,878	1,845	1,826	1,792	1,785	1,733	1,642	
Nov.	1,611	1,803	1,701	1,702	1,625	1,590	1,597	1,465	
Dec.	1,360	1,344	1,429	1,328	1,350	1,306	1,274	1,247	
Average	1,649	1,686	1,663	1,611	1,599	1,583	1,533	1,467	
HIRED WORKERS									
Jan.	335	368	338	369	375	327	331	340	328
Feb.	376	406	404	422	405	374	351	387	390
Mar.	395	455	436	452	427	435	412	381	401
Apr.	498	473	534	510	477	481	447	426	419
May	531	515	570	602	567	637	518	501	
June	619	670	630	657	592	664	572	557	
July	618	620	591	595	615	600	587	514	
Aug.	458	528	561	519	537	519	517	488	
Sept.	477	554	644	577	582	562	617	546	
Oct.	609	610	677	645	611	585	606	574	
Nov.	515	583	601	572	522	498	537	483	
Dec.	379	445	517	468	403	418	404	406	
Average	484	519	542	532	510	508	492	467	

Farm Employment: Number of Persons Employed on the First of Each Month, East South Central, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000'
TOTAL EMPLOYMENT									
Jan.	1,480	1,482	1,453	1,435	1,364	1,395	1,412	1,386	1,271
Feb.	1,533	1,567	1,484	1,446	1,406	1,340	1,389	1,399	1,306
Mar.	1,542	1,630	1,611	1,553	1,492	1,492	1,457	1,435	1,370
Apr.	1,805	1,832	1,763	1,666	1,704	1,648	1,621	1,567	1,547
May	2,065	2,130	2,047	1,975	2,001	1,976	1,879	1,831	
June	2,294	2,298	2,285	2,311	2,260	2,273	2,115	2,015	
July	2,123	2,017	1,951	2,097	2,064	2,109	1,996	1,891	
Aug.	1,658	1,797	1,606	1,648	1,655	1,638	1,644	1,542	
Sept.	1,957	1,960	2,041	2,023	1,995	2,037	1,831	1,861	
Oct.	2,202	2,306	2,299	2,322	2,253	2,196	2,211	2,131	
Nov.	1,877	1,950	1,838	2,031	1,905	1,811	1,849	1,793	
Dec.	1,566	1,524	1,541	1,526	1,542	1,494	1,569	1,427	
Average	1,842	1,874	1,826	1,836	1,803	1,784	1,748	1,690	
FAMILY WORKERS									
Jan.	1,309	1,326	1,282	1,214	1,171	1,198	1,230	1,218	1,096
Feb.	1,352	1,386	1,285	1,222	1,192	1,135	1,194	1,192	1,085
Mar.	1,367	1,427	1,370	1,313	1,265	1,261	1,252	1,218	1,159
Apr.	1,574	1,626	1,490	1,411	1,454	1,399	1,395	1,337	1,322
May	1,817	1,898	1,762	1,670	1,712	1,690	1,612	1,572	
June	1,987	2,005	1,942	1,932	1,913	1,875	1,775	1,674	
July	1,845	1,784	1,716	1,776	1,753	1,747	1,651	1,569	
Aug.	1,476	1,595	1,389	1,381	1,394	1,366	1,385	1,283	
Sept.	1,737	1,741	1,701	1,692	1,657	1,681	1,584	1,519	
Oct.	1,950	2,014	1,909	1,964	1,867	1,839	1,784	1,677	
Nov.	1,622	1,684	1,541	1,690	1,589	1,512	1,503	1,453	
Dec.	1,381	1,320	1,276	1,278	1,272	1,246	1,271	1,165	
Average	1,618	1,650	1,555	1,545	1,520	1,496	1,485	1,407	
HIRED WORKERS									
Jan.	171	156	171	221	193	197	182	168	175
Feb.	181	181	199	224	214	205	195	207	221
Mar.	175	203	241	240	227	231	205	217	211
Apr.	231	206	273	255	250	249	226	230	225
May	248	232	285	305	289	286	267	259	
June	307	293	343	379	347	398	340	341	
July	278	233	235	321	311	362	345	322	
Aug.	182	202	217	267	261	272	259	259	
Sept.	220	219	340	331	338	356	307	342	
Oct.	252	292	390	358	386	357	427	454	
Nov.	255	266	297	341	316	299	346	340	
Dec.	185	204	265	248	270	248	298	262	
Average	224	224	271	291	283	288	283	283	

Farm Employment: Number of Persons Employed on the First of Each Month, West South Central, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000'
TOTAL EMPLOYMENT									
Jan.	1,520	1,570	1,584	1,474	1,449	1,412	1,401	1,460	1,424
Feb.	1,560	1,590	1,591	1,461	1,472	1,502	1,422	1,451	1,456
Mar.	1,678	1,603	1,637	1,559	1,517	1,548	1,482	1,447	1,423
Apr.	1,915	1,721	1,816	1,643	1,653	1,593	1,617	1,661	1,548
May.	2,034	2,038	2,029	1,977	1,918	1,902	1,830	1,819	
June.	2,351	2,361	2,399	2,315	2,195	2,242	2,197	2,096	
July.	2.161	2,238	2,157	2,214	2,207	2,271	2,186	2,066	
Aug.	1,662	1,887	1,826	1,800	1,829	1,855	1,881	1,802	
Sept.	1,916	1,949	2,137	2,029	2,025	2,082	1,880	1,859	
Oct.	2,238	2,301	2,350	2,330	2,322	2,341	2,288	2,313	
Nov.	1,954	2,187	2,041	2,250	2,183	2,012	2,094	1,984	
Dec.	1,611	1,838	1,753	1,872	1,696	1,660	1,708	1,637	
Average	1,883	1,940	1,943	1,921	1,872	1,868	1,832	1,800	
FAMILY WORKERS									
Jan.	1,244	1,321	1,322	1,202	1,153	1,154	1,140	1,141	1,102
Feb.	1,261	1,330	1,304	1,181	1,158	1,191	1,134	1,127	1,110
Mar.	1,387	1,342	1,339	1,243	1,201	1,239	1,173	1,155	1,120
Apr.	1,534	1,477	1,388	1,329	1,305	1,273	1,282	1,315	1,189
May.	1,635	1,719	1,626	1,576	1,501	1,500	1,429	1,439	
June.	1,814	1,928	1,863	1,767	1,693	1,683	1,661	1,578	
July.	1,740	1,726	1,717	1,626	1,622	1,592	1,604	1,524	
Aug.	1,360	1,513	1,438	1,402	1,355	1,342	1,394	1,364	
Sept.	1,520	1,572	1,593	1,532	1,458	1,487	1,386	1,364	
Oct.	1,742	1,799	1,846	1,755	1,630	1,653	1,598	1,608	
Nov.	1,573	1,749	1,592	1,656	1,620	1,485	1,470	1,399	
Dec.	1,331	1,466	1,352	1,354	1,273	1,245	1,211	1,209	
Average	1,512	1,578	1,531	1,468	1,414	1,403	1,373	1,352	
HIRED WORKERS									
Jan.	276	249	262	272	296	258	261	319	322
Feb.	299	260	287	280	314	311	288	324	346
Mar.	291	261	298	316	316	309	309	292	303
Apr.	381	244	428	314	348	320	335	346	359
May.	399	319	403	401	417	402	401	380	
June.	537	433	536	548	502	559	536	518	
July.	421	512	440	588	585	679	582	542	
Aug.	302	374	388	478	474	513	437	438	
Sept.	396	377	544	497	567	595	494	495	
Oct.	496	502	504	625	692	688	690	705	
Nov.	331	438	449	594	563	527	624	535	
Dec.	280	372	401	518	423	415	497	428	
Average	371	362	412	453	458	465	459	448	

Farm Employment: Number of Persons Employed on the First of Each Month, Mountain, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
TOTAL EMPLOYMENT									
Jan.	373	360	367	366	350	348	362	338	361
Feb.	389	382	379	378	361	361	346	349	396
Mar.	404	400	382	378	370	376	356	361	376
Apr.	442	433	426	427	398	405	389	397	409
May	457	444	447	459	441	450	418	423	
June	483	465	490	488	468	466	460	464	
July	508	510	524	515	514	484	510	504	
Aug.	523	517	516	496	490	488	479	533	
Sept.	520	530	545	516	527	507	491	531	
Oct.	478	507	504	469	488	472	438	500	
Nov.	394	469	456	448	446	443	450	465	
Dec.	359	390	429	370	389	383	373	395	
Average	444	450	455	442	437	432	423	438	
FAMILY WORKERS									
Jan.	274	279	276	275	261	266	276	263	272
Feb.	282	289	283	274	264	268	274	269	282
Mar.	291	296	292	279	271	281	277	272	279
Apr.	305	308	303	294	281	288	280	295	292
May	308	318	308	295	280	294	281	284	
June	317	325	306	301	297	300	289	300	
July	325	324	323	323	307	298	306	304	
Aug.	329	325	326	300	294	297	300	313	
Sept.	327	321	324	305	298	297	296	303	
Oct.	291	312	298	287	284	286	282	297	
Nov.	275	310	288	277	272	281	275	288	
Dec.	269	282	287	271	267	277	271	278	
Average	299	307	301	290	281	286	284	289	
HIRED WORKERS									
Jan.	99	81	91	91	89	82	86	75	89
Feb.	107	93	96	104	97	93	72	80	114
Mar.	113	104	90	99	99	95	79	89	97
Apr.	137	125	123	133	117	117	109	102	117
May	149	126	139	164	161	156	137	139	
June	166	140	184	187	171	166	171	164	
July	183	186	201	192	207	186	204	200	
Aug.	194	192	190	196	196	191	179	220	
Sept.	193	209	221	211	229	210	195	228	
Oct.	187	195	206	182	204	186	156	203	
Nov.	119	159	168	171	174	162	175	177	
Dec.	90	108	142	99	122	106	102	117	
Average	145	143	154	152	156	146	139	149	

Farm Employment: Number of Persons Employed on the First of Each Month, Pacific States, 1934 to date 1/

Month	1934	1935	1936	1937	1938	1939	1940	1941	1942
	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's	1,000's
					TOTAL EMPLOYMENT				
Jan.	461	433	440	434	459	448	440	401	431
Feb.	471	433	469	453	466	436	436	426	446
Mar.	496	464	454	461	467	447	441	435	462
Apr.	527	493	497	555	524	510	472	468	465
May	589	571	554	557	527	528	514	507	
June	581	569	568	557	553	597	562	581	
July	596	575	605	568	609	635	662	674	
Aug.	624	595	621	613	623	692	669	719	
Sept.	640	673	702	704	711	760	733	776	
Oct.	586	580	596	636	610	653	649	665	
Nov.	518	544	502	556	578	591	563	588	
Dec.	467	495	455	469	491	507	487	515	
Average	546	536	539	547	552	567	556	563	
					FAMILY WORKERS				
Jan.	302	285	297	278	287	287	283	267	271
Feb.	302	291	293	283	294	279	280	273	284
Mar.	316	296	299	291	295	295	283	281	290
Apr.	335	311	307	319	301	327	296	293	294
May	364	352	346	320	302	326	303	304	
June	363	347	350	317	307	328	312	306	
July	339	343	343	309	310	331	304	306	
Aug.	360	349	353	312	322	345	305	306	
Sept.	360	378	378	350	366	379	349	346	
Oct.	347	353	333	312	318	319	309	304	
Nov.	339	315	301	311	317	311	295	294	
Dec.	310	293	288	291	300	295	283	284	
Average	336	326	324	308	310	319	300	297	
					HIRED WORKERS				
Jan.	159	153	143	156	172	161	157	134	160
Feb.	169	147	176	170	172	157	156	153	162
Mar.	180	168	155	170	172	152	158	154	172
Apr.	192	182	190	236	223	183	176	170	171
May	225	219	208	237	225	202	206	203	
June	218	222	218	240	246	269	250	275	
July	257	232	262	259	299	304	358	368	
Aug.	264	246	268	301	301	347	364	413	
Sept.	280	295	324	354	345	381	434	430	
Oct.	239	227	263	324	292	334	340	361	
Nov.	179	229	201	245	261	280	268	294	
Dec.	157	202	167	178	191	212	204	231	
Average	210	210	215	239	242	243	256	266	

1/Preliminary revisions - basis 1940 Census enumeration.

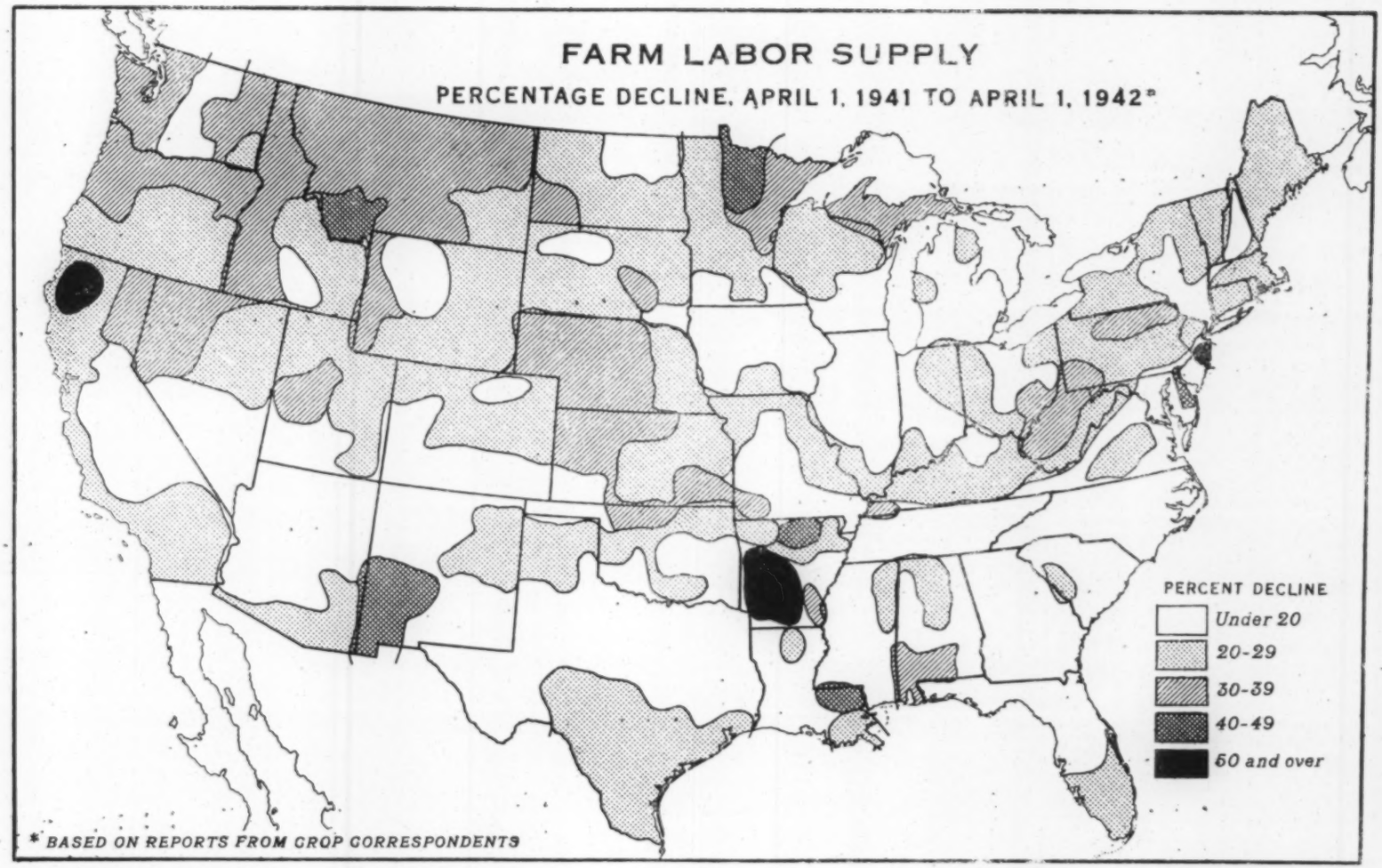
Farm employment, by States, April 1, 1942, with comparisons

State	Total	Family	Hired	Supply of and demand for farm labor: Supply as percentage of normal	Supply of and demand for farm labor: Demand as percentage of normal
	1,000's	1,000's	1,000's	Pct.	Pct.
Maine	51	41	10	50	101
N.H.	24	18	6	54	99
Vt.	40	29	11	56	103
Mass.	59	38	21	49	101
R.I.	6	4	2	60	106
Conn.	49	31	18	54	103
N.Y.	253	180	73	51	100
N.J.	60	34	26	56	97
Pa.	262	200	62	53	101
Ohio	322	269	53	52	99
Ind.	236	200	36	60	103
Ill.	306	239	67	64	98
Mich.	230	199	31	55	99
Wis.	288	228	60	65	108
Minn.	280	230	50	63	100
Iowa	306	246	60	71	99
Mo.	343	292	51	56	98
N.Dak.	115	96	19	61	97
S.Dak.	105	89	16	63	98
Nebr.	164	144	20	56	102
Kans.	210	183	27	58	102
Del.	14	10	4	56	101
Md.	71	45	26	60	98
Va.	255	199	56	57	103
W.Va.	130	118	12	52	102
N.C.	487	405	82	59	100
S.C.	291	220	71	65	92
Ga.	410	308	102	63	101
Fla.	147	81	66	63	95
Ky.	311	267	44	63	99
Tenn.	329	274	55	64	98
Ala.	429	353	76	59	99
Miss.	478	428	50	67	100
Ark.	335	278	57	64	96
La.	246	184	62	66	94
Okla.	258	215	43	65	96
Tex.	709	512	197	64	90
Mont.	74	55	19	56	101
Idaho	67	51	16	63	101
Wyo.	26	18	8	72	110
Colo.	85	63	22	60	101
N.Mex.	69	48	21	64	93
Ariz.	40	20	20	69	99
Utah	38	32	6	66	103
Nev.	10	5	5	54	92
Wash.	107	84	23	58	100
Oreg.	83	67	16	53	101
California	275	143	132	68	96
U.S.	9,483	7,473	2,010	61.4	98.1

Decline in farm labor supply from April 1, 1941 to April 1, 1942
by crop-reporting districts 1/
(Percentage Changes)

State	Crop-reporting districts																		State
	1	1-N	1-S	2	2-A	3	4	4-A	5	5-A	6	6-A	7	8	9	9-A	10		
Me	22	-	-	29	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
Vt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
Mass.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
R.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
Conn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
N.Y.	-	-	-	21	-	27	23	-	19	-	29	-	21	29	19	13	-	-	-
N.J.	-	-	-	27	-	-	-	-	6	-	-	-	-	13	-	-	-	-	-
Pa.	26	-	-	31	-	30	24	-	23	-	12	-	36	20	20	-	-	-	-
Ohio	26	-	-	15	-	27	22	-	18	-	15	-	21	29	31	-	-	-	-
Ind.	19	-	-	23	-	20	14	-	11	-	20	-	22	14	15	-	-	-	-
Ill.	15	-	-	-	-	15	16	14	19	-	20	11	23	-	18	-	-	-	-
Mich.	30	-	-	14	-	29	23	-	15	-	2	-	9	12	16	-	-	-	-
Wis.	24	-	-	24	-	22	20	-	18	-	16	-	16	15	7	-	-	-	-
Minn.	25	-	-	43	-	31	20	-	25	-	33	-	18	24	11	-	-	-	-
Iowa	15	-	-	15	-	17	13	-	19	-	17	-	18	23	17	-	-	-	-
Mo.	23	-	-	17	-	23	17	-	18	-	21	-	30	14	16	-	-	-	-
N.Dak.	26	-	-	19	-	19	22	-	26	-	22	-	34	28	20	-	-	-	-
S.Dak.	10	-	-	20	-	24	29	-	35	-	21	-	28	23	19	-	-	-	-
Nebr.	30	-	-	36	-	20	-	-	31	-	29	-	33	30	28	-	-	-	-
Kans.	30	-	-	31	-	19	33	-	25	-	28	-	18	28	30	-	-	-	-
Del.	-	-	-	45	-	-	-	-	46	-	-	-	-	44	-	-	-	-	-
Md.	20	-	-	18	-	-	-	-	-	-	-	-	-	14	12	-	-	-	-
Va.	-	-	-	6	-	-	17	-	28	-	12	-	6	20	8	-	-	-	-
W.Va.	-	-	-	38	-	-	33	-	-	-	25	-	-	-	-	-	-	-	-
N.C.	16	-	-	16	-	11	13	-	11	-	17	-	-	13	6	-	-	-	-
S.C.	11	-	-	15	-	6	26	-	9	-	-	-	-	7	-	-	-	-	-
Ga.	11	-	-	11	-	19	9	-	12	-	5	-	8	5	16	-	-	-	-
Fla.	12	-	-	-	-	5	-	-	18	-	-	-	-	24	-	-	-	-	-
Ky.	33	-	-	26	-	27	16	-	17	-	23	-	-	-	-	-	-	-	-
Tenn.	13	-	-	18	-	16	16	-	18	-	18	-	-	-	-	-	-	-	-
Ala.	4	-	-	22	29	19	19	-	10	-	8	-	35	31	5	-	-	-	-
Miss.	6	-	-	6	-	21	11	-	12	-	21	-	16	19	16	-	-	-	-
Ark.	29	-	-	48	-	29	44	-	50	-	19	-	50	52	37	-	-	-	-
La.	16	-	-	20	-	8	9	-	3	-	40	-	0	13	27	-	-	-	-
Okla.	19	-	-	30	-	25	20	-	19	-	15	-	13	22	10	-	-	-	-
Tex.	-	23	18	18	-	12	17	-	16	-	12	-	27	25	24	-	26	-	-
Mont.	33	-	-	32	-	31	-	-	31	-	-	-	48	39	29	-	-	-	-
Idaho	33	-	-	-	-	-	-	-	-	-	-	-	35	17	22	-	-	-	-
Wyo.	8	-	-	21	-	30	24	-	24	-	-	-	-	-	-	-	-	-	-
Colo.	21	-	-	0	-	-	-	-	-	-	23	-	7	0	8	-	-	-	-
N.Mex.	8	-	-	-	-	22	-	-	-	-	-	-	42	-	15	-	-	-	-
Ariz.	-	-	-	3	-	-	-	-	15	-	-	-	12	-	20	-	-	-	-
Utah	22	-	-	-	-	-	-	-	31	-	22	-	5	-	-	-	-	-	-
Nev.	37	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-
Wash.	36	-	-	15	-	30	-	-	33	-	-	-	-	-	20	-	-	-	-
Oreg.	32	-	-	30	-	33	-	-	-	-	-	-	26	25	-	-	-	-	-
Calif.	8	-	-	59	-	31	25	-	24	18	16	-	-	22	-	-	-	-	-

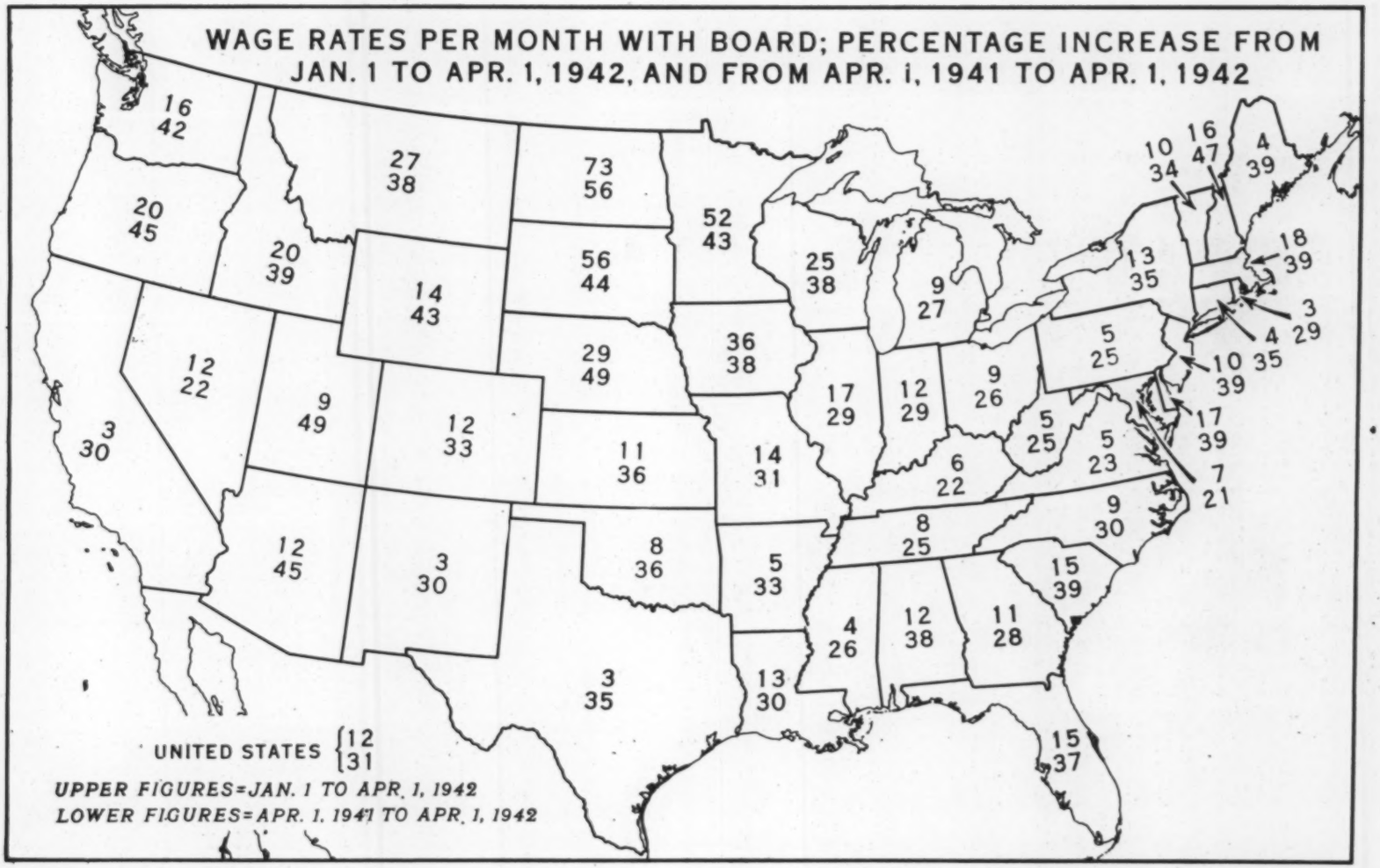
1/Based on reports from crop correspondents.



U.S. DEPARTMENT OF AGRICULTURE NEG. 42104 BUREAU OF AGRICULTURAL ECONOMICS

Farm wage rates, by States, April 1, 1941 and April 1, 1942

State	Per month, with board		Per month, without board		Per day, with board		Per day, without board	
	1941	1942	1941	1942	1941	1942	1941	1942
	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.
Maine	34.25	47.75	53.50	70.25	1.80	2.85	2.45	3.35
N. H.	32.25	47.50	57.00	76.00	2.15	2.60	2.90	3.40
Vt.	36.25	48.75	55.25	70.50	1.90	2.60	2.70	3.35
Mass.	38.50	53.50	68.00	89.25	1.85	2.60	2.95	3.65
R. I.	42.00	54.00	67.25	88.75	2.40	2.80	3.15	3.70
Conn.	41.50	56.00	71.50	89.75	2.15	2.80	3.15	3.90
N. Y.	36.00	48.75	54.25	70.25	1.90	2.50	2.60	3.35
N. J.	36.25	50.25	59.75	76.25	2.00	2.60	2.75	3.45
Pa.	29.50	37.00	46.25	60.00	1.80	2.25	2.35	2.90
Ohio	30.25	38.00	43.25	53.75	1.75	2.25	2.20	2.80
Ind.	31.50	40.75	43.50	53.50	1.65	2.10	2.05	2.65
Ill.	37.50	48.25	48.00	60.00	1.85	2.45	2.35	3.00
Mich.	33.75	42.75	49.00	62.00	1.85	2.40	2.40	3.05
Wis.	35.75	49.25	50.50	68.00	1.65	2.30	2.30	3.00
Minn.	34.50	49.25	47.50	64.00	1.65	2.25	2.35	3.05
Iowa	39.00	53.75	48.50	65.00	1.90	2.50	2.45	3.25
Mo.	25.50	33.50	35.50	43.75	1.20	1.55	1.55	2.00
N. Dak.	31.00	48.50	44.75	65.50	1.45	2.15	2.15	2.85
S. Dak.	33.00	47.50	45.75	63.25	1.50	2.15	2.10	2.90
Nebr.	29.75	44.25	40.50	57.50	1.45	2.25	1.95	2.80
Kans.	28.00	38.00	40.00	53.75	1.40	2.10	1.95	2.75
Del.	28.75	40.00	43.50	57.75	1.60	2.25	2.20	2.75
Md.	30.25	36.75	43.25	54.00	1.55	1.95	2.05	2.50
Va.	24.00	29.50	34.00	42.00	1.20	1.50	1.60	1.95
W. Va.	23.25	29.00	33.75	43.00	1.10	1.40	1.50	1.85
N. C.	19.25	25.00	27.75	41.00	1.05	1.30	1.30	1.60
S. C.	13.50	18.75	20.00	25.50	.70	.85	.90	1.10
Ga.	14.25	18.25	20.25	25.75	.75	.95	.95	1.20
Fla.	18.25	25.00	32.00	39.50	1.00	1.30	1.35	1.75
Ky.	22.25	27.25	30.50	38.00	1.00	1.25	1.30	1.60
Tenn.	18.75	23.50	26.75	32.50	.90	1.10	1.10	1.40
Ala.	15.25	21.00	21.25	29.25	.75	1.00	1.00	1.30
Miss.	15.50	19.50	22.00	26.75	.80	.95	1.05	1.25
Ark.	18.00	24.00	25.50	33.50	.85	1.25	1.10	1.55
La.	16.50	21.50	24.00	29.50	.85	1.05	1.10	1.30
Okla.	22.50	30.50	32.00	42.75	1.10	1.55	1.45	1.95
Tex.	24.00	32.50	33.25	43.00	1.10	1.55	1.40	1.85
Mont.	43.00	59.25	62.00	80.00	2.00	2.80	2.85	3.60
Idaho	42.75	59.50	58.50	80.00	2.00	2.80	2.55	3.50
Wyo.	38.50	55.00	55.75	74.75	1.70	2.50	2.35	3.20
Colo.	33.50	44.50	49.00	65.25	1.55	2.20	2.10	2.90
N. Mex.	30.00	39.00	43.75	56.75	1.35	1.95	1.70	2.35
Ariz.	37.50	54.50	57.25	75.75	1.55	2.25	2.15	2.70
Utah	43.00	64.00	61.00	83.75	2.15	2.75	2.65	3.15
Nev.	46.00	56.00	63.75	83.75	1.80	2.25	2.50	3.00
Wash.	42.50	60.50	64.50	89.25	2.20	3.10	2.95	3.90
Oreg.	42.00	61.00	59.25	85.50	2.05	2.95	2.60	3.65
Calif.	52.50	68.25	78.25	97.00	2.25	3.00	3.05	3.90
U. S.	31.56	41.47	40.44	50.90	1.41	1.83	1.70	2.10



U. S. DEPARTMENT OF AGRICULTURE NEG. 42109 BUREAU OF AGRICULTURAL ECONOMICS

Piece rates paid by farmers for selected jobs for specified States, March 1 and April 1, 1942

State	March 1, 1942		April 1, 1942	
	Range 1/	Average	Range 1/	Average
PICKING ORANGES, PER BOX				
	Cents	Cents	Cents	Cents
California	6 - 8	7.0	-	-
Florida	-	-	7 - 10	.10
PICKING GRAPEFRUIT, PER BOX				
	Cents	Cents	Cents	Cents
Florida	-	-	5.0- 5.5	5.4
PICKING STRAWBERRIES, PER QT.				
	Cents	Cents	Cents	Cents
Florida	-	-	1.7- 3.0	2.7
PICKING BEANS, PER BUSHEL				
	Cents	Cents	Cents	Cents
Florida	29 - 33	.31	29 - 35	.32
CUTTING CANE, PER TON				
	Dollars	Dollars	Dollars	Dollars
Florida	-	-	.90 - 1.10	1.00
HARVESTING CARROTS, PER CRATE				
	Cents	Cents	Cents	Cents
Arizona	-	-	-	.20
PLOWING, PER ACRE				
	Dollars	Dollars	Dollars	Dollars
Ohio	-	-	1.75 - 2.50	2.10
Kansas	-	-	-	1.50
South Carolina	-	-	1.00 - 2.00	1.50
Arkansas	-	-	-	1.50
California	-	-	1.25 - 2.00	1.65
Colorado	-	-	2.00 - 2.50	2.25
Utah	-	-	-	3.00
Washington	-	-	-	3.50
Oregon	-	-	2.00 - 2.60	2.35
DISKING, PER ACRE				
	Dollars	Dollars	Dollars	Dollars
Arkansas	-	-	-	.75
California	-	-	1.25 - 3.00	2.07
Florida	-	-	1.10 - 1.75	1.60
Illinois	-	-	-	.60
Missouri	-	-	-	.50
CUTTING WOOD, PER CORD				
	Dollars	Dollars	Dollars	Dollars
Maine	2.20 - 3.50	2.90	2.50 - 3.75	3.00
New Hampshire	2.30 - 3.60	3.00	3.00 - 3.50	3.10
Vermont	2.20 - 3.50	2.90	-	3.00
Massachusetts	2.60 - 3.80	3.20	3.00 - 3.50	3.10
Rhode Island	2.60 - 3.80	3.20	-	3.50
Connecticut	2.40 - 3.70	3.10	-	3.00
Minnesota	-	-	-	1.75
North Carolina	1.10 - 2.20	1.50	1.00 - 1.50	1.30
Georgia	-	-	-	1.00
Alabama	-	-	-	1.00
Texas	1.70 - 2.70	2.20	-	2.00
Oregon	1.60 - 2.70	2.20	1.50 - 2.50	2.10

1/ Range includes at least two-thirds of all rates reported.

Work Status of Persons Living on Farms of Farm Labor Reporters, by States, April 1, 1942

State	Total farm population	Persons working at farm work	Persons not employed on home farm at farm work: Total	House-workers	Doing farm work off home farm	Working at non-farm work	Persons available for farm work	All others*
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Me.	100	39	61	24	1	5	3	28
N.H.	100	42	58	27	-	6	2	23
Vt.	100	40	60	25	1	5	2	27
Mass.	100	38	62	25	1	12	2	22
R.I.	100	36	64	24	1	15	2	22
Conn.	100	39	61	24	-	12	2	23
N.Y.	100	44	56	26	-	5	1	24
N.J.	100	36	64	25	1	10	3	25
Truck crop area		36	64	24	1	7	4	28
Pa.	100	40	60	25	1	8	3	23
Ohio	100	44	56	25	1	6	1	23
Ind.	100	41	59	24	3	5	3	24
Ill.	100	40	60	28	1	4	2	25
Mich.	100	56	44	18	1	4	1	20
Wis.	100	40	60	27	1	4	1	27
Minn.	100	50	50	22	1	2	1	24
Iowa	100	40	60	26	1	3	3	27
Mo.	100	40	60	30	1	4	3	22
N.Dak.	100	51	49	22	2	1	1	23
S.Dak.	100	54	46	21	1	2	2	20
Nebr.	100	48	52	25	1	2	1	23
Kans.	100	46	54	25	1	2	3	23
Del.	100	31	69	26	-	11	-	32
Md.	100	29	71	26	2	8	3	32
Va.	100	27	73	28	1	9	4	31
W.Va.	100	47	53	23	1	5	2	22
N.C.	100	43	57	21	2	6	6	22
S.C.	100	24	76	25	2	6	14	29
Ga.	100	41	59	23	2	5	8	21
Fla.	100	47	53	19	3	4	4	23
Citrus area		36	64	21	3	10	1	29
Truck crop area		35	65	27	6	5	7	25
Ky.	100	33	67	29	1	3	3	31
Tenn.	100	33	67	28	1	5	7	26
Ala.	100	36	64	25	2	5	10	22
Miss.	100	39	61	24	1	2	11	23
Ark.	100	39	61	25	1	2	7	26
La.	100	40	60	19	1	3	8	29
Okla.	100	38	62	24	2	1	3	32
Tex.	100	41	59	26	2	3	5	23
Mont.	100	46	54	22	1	2	1	28
Idaho	100	46	54	25	2	4	3	20
Wyo.	100	46	54	25	1	1	3	24
Colo.	100	38	62	28	1	2	3	28
N.Mex.	100	39	61	24	1	4	3	29
Ariz.	100	40	60	22	2	1	4	31
Utah	100	28	72	30	2	4	3	33
Nev.	100	38	62	23	2	5	6	26
Wash.	100	47	53	21	1	5	1	25
Oreg.	100	49	51	22	1	5	2	21
Calif.	100	53	47	24	2	4	1	16

*Including the aged and infirm, infants and children in school.

Percentage distribution of persons employed on farms in the United States, by age and sex *
April 1, 1942

State	Total	Age		Sex	
		Workers 14 yrs. old and over	Workers under 14 years of age	Male	Female
	Pct.	Pct.	Pct.	Pct.	Pct.
Maine	100	97	3	86	14
N. H.	100	98	2	88	12
Vt.	100	95	5	89	11
Mass.	100	98	2	88	12
R. I.	100	99	1	92	8
Conn.	100	96	4	85	15
N. Y.	100	98	2	87	13
N. J.	100	98	2	87	13
Truck crop area		99	1	92	8
Pa.	100	95	5	85	15
Ohio	100	98	2	84	16
Ind.	100	96	4	86	14
Ill.	100	98	2	92	8
Mich.	100	97	3	85	15
Wis.	100	98	2	83	17
Minn.	100	96	4	84	16
Iowa	100	99	1	92	8
Mo.	100	-	-	88	12
N. Dak.	100	93	7	80	20
S. Dak.	100	95	5	83	17
Nebr.	100	98	2	86	14
Kans.	100	97	3	85	15
Del.	100	90	10	87	13
Md.	100	90	10	85	15
Va.	100	97	3	91	9
W. Va.	100	98	2	89	11
N. C.	100	93	7	80	20
S. C.	100	92	8	80	20
Ga.	100	92	8	81	19
Fla.	100	95	5	76	24
Citrus area		97	3	74	26
Truck crop area		98	2	64	36
Ky.	100	94	6	89	11
Tenn.	100	96	4	90	10
Ala.	100	91	9	83	17
Miss.	100	93	7	83	17
Ark.	100	94	6	85	15
La.	100	98	2	86	14
Okla.	100	96	4	87	13
Tex.	100	96	4	85	15
Mont.	100	98	2	88	12
Idaho	100	96	4	88	12
Wyo.	100	96	4	90	10
Colo.	100	98	2	93	7
N. Mex.	100	95	5	90	10
Ariz.	100	99	1	92	8
Utah	100	93	7	89	11
Nev.	100	95	5	93	7
Wash.	100	93	7	80	20
Oreg.	100	97	3	80	20
Calif.	100	99	1	93	7

*Based on reports from over 41,497 farmers in the U. S. reporting on Farm Labor conditions.

Percentage of Farm Workers Living on Farms and off Farms
in the Citrus and Truck Crop Areas of Florida
and the Truck Crop Area of New Jersey*
April 1, 1942

Area	Total Workers	Workers Living on Farms			Workers Living off Farms		
		Total	Family	Hired	Total	Family	Hired
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Florida							
Citrus	100	46	36	10	54	1	53
Truck Crop	100	18	11	7	82	-	82
New Jersey							
Truck Crop	100	81	57	24	19	2	17

Percentage Distribution of Family and Hired Workers
in Citrus and Truck Crop Areas of Florida and
the Truck Crop Areas of New Jersey*

Area	Total Workers	Family Workers			Hired Workers			
		Total	Operators	Unpaid	Total	Paid by Month	Paid by day or week	Paid by hour or piece
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Florida								
Citrus	100	38	21	17	62	4	19	39
Truck Crop	100	11	8	3	89	2	29	58
New Jersey								
Truck Crop	100	59	40	19	41	7	23	11

*Based on sample farm employment surveys in Florida and New Jersey during the first week of April 1942. The information obtained from this survey while representative of the specialized areas enumerated is not representative of the States as a whole.

CHANGES IN REPORTED AND ESTIMATED FARM LABOR SUPPLY, UNITED STATES, 1921-42



YEAR-TO-YEAR CHANGES IN THE SUPPLY OF FARM LABOR AS REPORTED BY CROP CORRESPONDENTS ARE CLOSELY RELATED TO CHANGES IN THE FARM LABOR SUPPLY AS ESTIMATED FROM INDEPENDENT DATA. DURING THE PAST 15 MONTHS THE REPORTED SUPPLY SHOWS LARGER DECLINES THAN ARE INDICATED BY OTHER DATA.

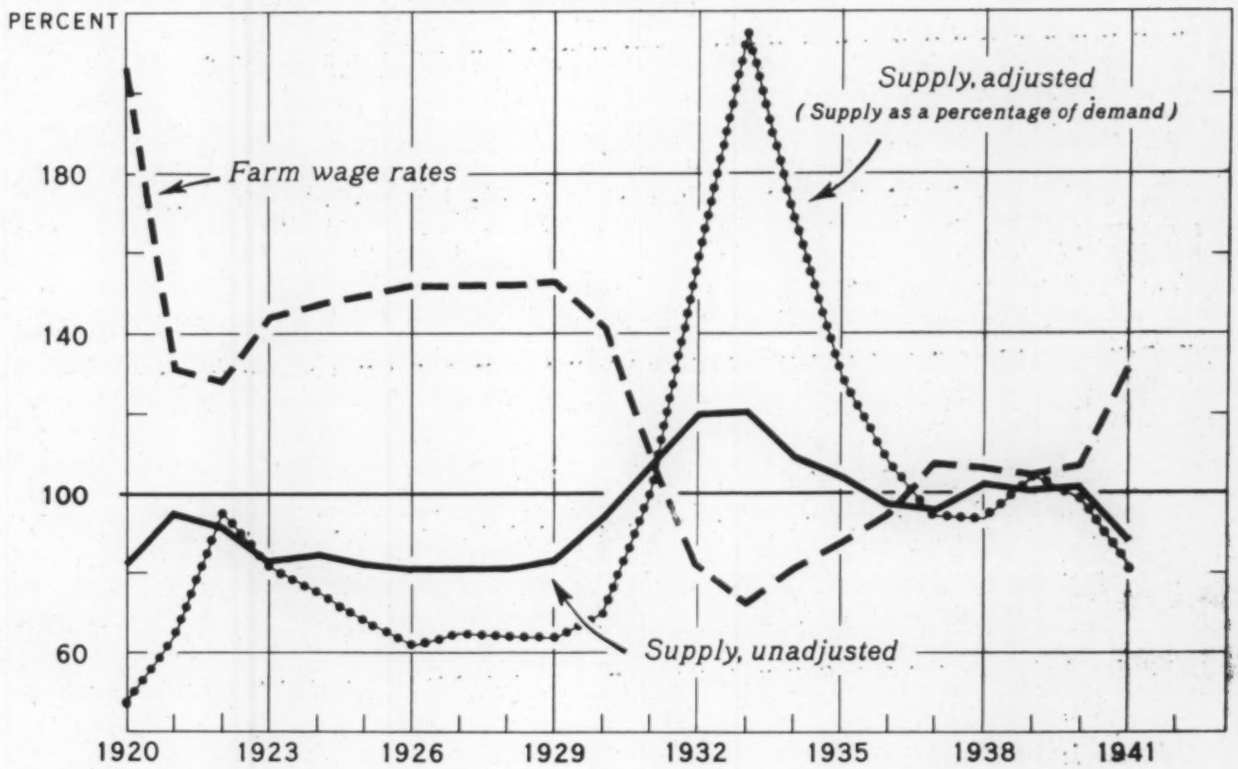
Annual percentage changes in the estimated supply of farm labor potentially available, and in the supply of farm labor as reported by crop correspondents, United States, April 1918-1942, and annual averages, 1920-1942

Year	Estimated labor supply in April 1/		Labor supply on April 1, as reported by crop correspondents		Estimated labor supply annual average 3/		Labor supply as reported by crop correspondents, annual average	
	Index Nos. 1935-39 = 100	Percent of preceding year	Percent of normal	Percent of preceding year	Index Nos. 1935-39 = 100	Percent of preceding year	Pct. of normal	Percent of preceding year
1918	-	-	73.4	-	-	--	-	-
1919	-	-	84.9	115.7	-	-	-	-
1920	82.6	-	72.9	85.9	82.5	-	81.5 2/	-
1921	94.7	114.6	95.8	131.4	94.7	114.8	95.8 2/	117.5
1922	92.0	97.2	100.2	104.6	92.0	97.1	97.3 2/	101.6
1923	83.6	90.9	84.3	84.1	83.4	90.7	81.6	83.9
1924	85.3	102.0	85.0	100.8	85.1	102.0	88.2	108.1
1925	82.7	97.0	90.6	106.6	82.4	96.9	90.9	103.1
1926	81.2	98.2	89.7	99.0	80.9	98.1	88.9	97.8
1927	81.6	100.4	91.2	101.7	81.2	100.4	91.2	102.6
1928	81.9	100.4	95.8	105.0	81.5	100.3	94.0	103.1
1929	83.6	102.2	94.2	98.3	83.6	102.6	93.7	99.7
1930	91.1	108.9	99.7	105.8	94.0	112.4	104.0	111.0
1931	103.7	113.8	113.6	113.9	106.5	113.3	114.4	110.0
1932	117.9	113.8	122.4	107.7	120.0	112.7	124.1	108.5
1933	125.4	106.3	126.3	103.2	120.8	100.7	118.6	95.6
1934	109.3	87.2	106.8	84.6	109.3	90.5	106.1	89.5
1935	103.8	95.0	101.8	95.3	104.2	95.3	98.4	92.7
1936	98.9	95.2	93.8	92.1	97.6	93.7	90.6	92.1
1937	93.7	94.8	87.4	93.2	95.8	98.1	85.8	94.7
1938	102.6	109.6	93.9	107.4	102.1	106.6	92.8	108.2
1939	101.0	98.4	93.0	99.0	100.3	98.3	91.8	98.9
1940	100.7	99.7	92.0	98.9	101.1	100.8	88.8	96.7
1941	90.1	89.4	75.6	82.2	88.9	88.0	70.4	79.3
1942	80.8 4/	89.7	61.4	81.2	80.1 4/	90.1	-	-

1/ Data and methods used to estimate were the same as those used in estimating the annual average series except for the use of April data or adjustments to an April level. (The annual data are shown on page 33)
2/ For 1920-1922 only the April 1 indications are available. Annual averages for these years were estimated on the basis of the April 1 indications, together with information on industrial employment during 1920-22.
3/ See table on page 33 for data used to estimate the labor supply index.
4/ Preliminary estimates.

ESTIMATED SUPPLY OF FARM LABOR, ADJUSTED AND UNADJUSTED FOR CHANGES IN DEMAND, AND FARM WAGE RATES, UNITED STATES, 1920-41

INDEX NUMBERS (1935-39=100)



U. S. DEPARTMENT OF AGRICULTURE NEG. 42105 BUREAU OF AGRICULTURAL ECONOMICS

FARM WAGE RATES ARE CLOSELY RELATED (INVERSELY) TO CHANGES IN THE SUPPLY OF FARM LABOR. THE ESTIMATED FARM LABOR SUPPLY, WHEN ADJUSTED ROUGHLY FOR CHANGES IN THE DEMAND FOR FARM LABOR, SHOWS THIS RELATIONSHIP CLEARLY.

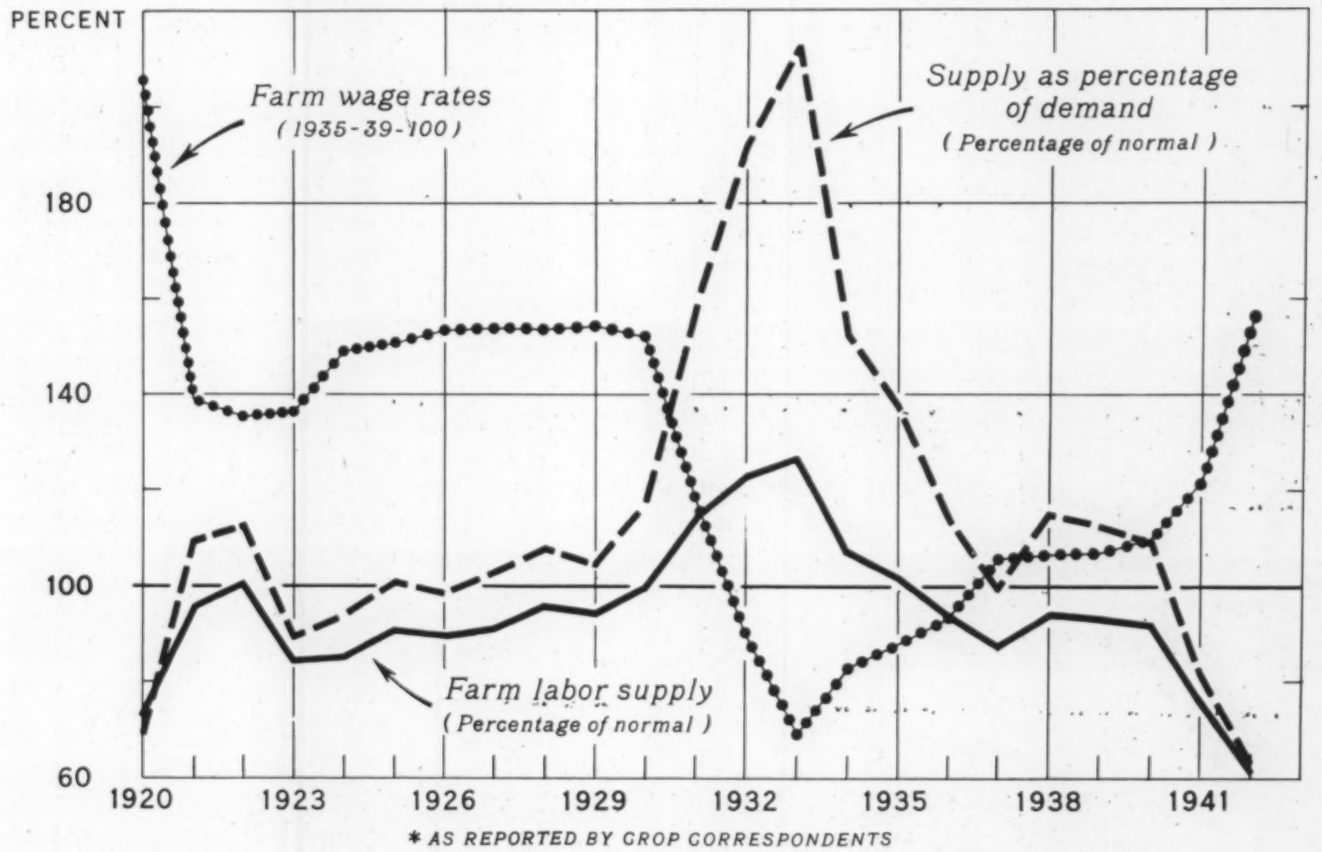
Estimated index of the labor supply potentially available for farm employment adjusted for changes in demand, and the index of farm wage rates, United States, annual averages, 1919 - 1941.

(Index Numbers 1935-39 = 100)

Year	Potential Farm Labor Supply 1/	Demand for Farm Labor 2/	Supply of Farm Labor Adjusted for Changes in Demand (Col. 2÷Col. 3)	Farm Wage Rates
(1)	(2)	(3)	(4)	(5)
1919 3/	82.5 3/	159.7	51.7	176.0
1920	82.5	173.2	47.6	205.8
1921	94.7	149.6	63.3	131.8
1922	92.0	96.7	95.1	128.4
1923	83.4	101.9	81.8	143.7
1924	85.1	113.4	75.0	147.1
1925	82.4	121.2	68.0	149.7
1926	80.9	130.4	62.0	152.2
1927	81.2	125.3	64.8	152.2
1928	81.5	127.6	63.9	152.2
1929	83.6	131.3	63.7	153.1
1930	94.0	134.0	70.1	142.0
1931	106.5	107.0	99.5	110.5
1932	120.0	75.6	158.7	81.6
1933	120.8	56.3	214.6	72.3
1934	109.3	64.6	169.2	80.8
1935	104.2	80.2	129.9	87.6
1936	97.6	90.3	108.1	94.4
1937	95.8	101.7	94.2	107.1
1938	102.1	108.8	93.8	106.3
1939	100.3	96.4	104.0	104.6
1940	101.1	102.7	98.4	107.1
1941	88.9	108.2	82.2	131.0

1/ From table on page 33.
2/ As measured by the level of total cash farm income in the previous year.
3/ Estimated on the basis of available data on nonagricultural employment to have averaged the same as in 1920.

REPORTED* SUPPLY OF FARM LABOR AND SUPPLY-DEMAND RATIO AS PERCENTAGE OF NORMAL, AND FARM WAGE RATES, UNITED STATES, APRIL 1, 1920-42



*AS REPORTED BY CROP CORRESPONDENTS

U. S. DEPARTMENT OF AGRICULTURE NEG. 42106 BUREAU OF AGRICULTURAL ECONOMICS

THE FARM LABOR SUPPLY INDICATIONS REPORTED BY CROP CORRESPONDENTS SHOW A CLOSE INVERSE RELATIONSHIP TO FARM WAGE RATES.

Farm Labor Supply and Demand Data Reported by Crop Correspondents, and the Index of Farm Wage Rates, United States, April 1, 1920-1942.

April 1	Supply of farm labor	Demand for farm labor	Supply at a percentage of demand	Farm wage rates
	Percentage of normal			(1935-39=100)
1920	72.9	105.2	69.3	206.0
1921	95.8	87.8	109.1	139.1
1922	100.2	89.3	112.3	135.6
1923	84.3	94.5	89.2	136.4
1924	85.0	90.4	94.0	148.8
1925	90.6	90.3	100.3	150.5
1926	89.7	91.2	98.4	153.2
1927	91.2	88.9	102.6	154.0
1928	95.8	88.8	107.9	153.2
1929	94.2	90.4	104.2	154.0
1930	99.7	85.0	117.3	151.4
1931	113.6	71.7	158.4	119.7
1932	122.4	64.0	191.2	89.8
1933	126.3	59.5	212.3	68.7
1934	106.8	70.1	152.4	82.7
1935	101.8	74.1	137.4	88.0
1936	93.8	82.5	113.7	93.3
1937	87.4	87.7	99.7	105.6
1938	93.9	81.9	114.7	106.5
1939	93.0	82.8	112.3	106.5
1940	92.0	84.3	109.1	109.2
1941	75.6	92.4	81.8	121.5
1942	61.4	98.1	62.6	155.8

Data used to obtain an estimated index of the total labor supply potentially available for agricultural employment, United States, annual averages, 1920-1942

Year	Population 14 years old and over in the total labor force 1/	Nonagricultural employment plus persons in military forces 2/	Employment on work-relief projects 3/	Total non-agricultural employment (Col. 3 + Col. 4)	Persons 14 yrs. old & over employed in agriculture plus all unemployed (Col. 2 - Col. 5)	Persons on farm 10-13 years of age 4/	Persons on farm 14 yrs. and over, but not in the labor force 5/	Persons comprising the primary sources of the farm labor supply (Col. 6 + Col. 7 + Col. 8)	Index of the labor supply potentially available for farm employment (1935 - 39 = 100) 6/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	In thousands of persons								
1920	41,595	30,896	-	30,896	10,699	3,163	9,752	23,614	82.5
1921	42,313	28,092	-	28,092	14,221	3,145	9,737	27,103	94.7
1922	43,031	29,550	-	29,550	13,481	3,127	9,721	26,329	92.0
1923	43,749	32,678	-	32,678	11,071	3,108	9,706	23,885	83.4
1924	44,467	32,878	-	32,878	11,589	3,090	9,691	24,370	85.1
1925	45,185	34,325	-	34,325	10,860	3,072	9,676	23,608	82.4
1926	45,903	35,458	-	35,458	10,445	3,054	9,660	23,159	80.9
1927	46,621	36,046	-	36,046	10,575	3,036	9,645	23,256	81.2
1928	47,339	36,652	-	36,652	10,687	3,017	9,630	23,334	81.5
1929	48,057	36,736	-	36,736	11,321	2,999	9,614	23,934	83.6
1930	48,707	34,424	-	34,424	14,283	2,976	9,648	26,907	94.0
1931	49,291	31,475	-	31,475	17,816	2,947	9,732	30,495	106.5
1932	49,875	28,254	-	28,254	21,621	2,919	9,815	34,355	120.0
1933	50,459	28,486	182	28,668	21,791	2,890	9,898	34,579	120.8
1934	51,043	30,934	1,649	32,583	18,460	2,861	9,982	31,303	109.3
1935	51,627	32,216	2,484	34,700	16,927	2,833	10,066	29,826	104.2
1936	52,211	34,290	2,917	37,207	15,004	2,804	10,149	27,957	97.6
1937	52,795	36,095	2,278	38,373	14,422	2,775	10,232	27,429	95.8
1938	53,379	33,930	3,278	37,208	16,171	2,746	10,316	29,233	102.1
1939	53,963	35,385	2,972	38,357	15,606	2,718	10,400	28,724	100.3
1940	55,400	36,801	2,529	39,330	16,070	2,689	10,196	28,955	101.1
1941	55,600	41,073	1,960	43,033	12,567	2,660	10,240	25,467	88.9
1942 7/	-	-	-	-	-	-	-	22,900	80.1

1/ The labor force relates to the total number of persons working for pay or profit, or assisting in a family enterprise, or seeking work. Excluded from the labor force are such persons as housewives, students and others who are not currently in the labor market. Figures for 1920 and 1930 are based on the census data of gainful workers. The preliminary figure for the labor force shown by the 1940 census was adjusted to the labor force shown by the Work Project Administration unemployment survey in April 1940. Annual averages for 1920 to 1940 are straight line interpolations of the census and W.P.A. data, after adjustment to comparable months. Annual averages for 1940 and 1941 are based on the W.P.A. monthly labor force data.

(Cont'd. on page 34)

Continued from page 4.

changes in the farm labor supply and the areas affected. These reports have proved useful as reliable indicators of relative changes from year to year in the supply of and demand for farm labor. Since farmers' reports of the labor supply are not tied to any base period "normal," they are not as easily understood as the conventional index numbers.

By using data on the size of the Nation's labor force and on the volume of nonagricultural employment, it is possible to estimate roughly the number of persons who make up the principal sources of the farm labor supply. These estimates, extending from 1920 to date, are presented in table 4 on page 33, and relate to the country as a whole. Changes in the total number of persons in the groups from which farm laborers are customarily drawn may be expected to result in comparable changes in the available supply of farm labor. 1/ The correctness

1/ The estimates made of the total number of persons comprising the primary sources of the farm labor supply do not indicate the actual number available for farm work. Many of these are not available at the current wage rates, while many others would not be available under any wage conditions because of inexperience, remoteness from opportunities for farm employment, and other reasons.

Footnotes continued from preceding page.

2/ Data for 1929-1941 from the Bureau of Labor Statistics, U. S. Department of Labor. Date for 1920-1928 based on estimates of employees in nonagricultural establishments prepared by the National Bureau of Economic Research (Recent Economic Changes, Vol. 11) for 1920-1927. These figures were extrapolated for 1928-29 and adjusted to agree with the Bureau of Labor Statistics 1929 figure of nonagricultural employees and total nonagricultural employment (including the self-employed). Persons in military forces were added to the estimates of nonagricultural employment.

3/ From Work Projects Administration and the Bureau of Labor Statistics. Includes persons on E.R.A., W.P.A. and C.C.C. projects and on N.Y.A. out-of-school work projects.

4/ Interpolations of census data which were extended into 1941-42 on the basis of the trend in the preceding decade.

5/ The great majority of these are farm women engaged in own housework, and persons in school. The estimates are based on interpolations of census data which were reduced slightly in years subsequent to 1930 to allow for the greater increase in the labor force shown by the W.P.A. surveys than by the 1940 census.

6/ Based on column 9 of above table. These estimates are now presented in preliminary form subject to revision as more detailed information is developed.

7/ Preliminary estimate.

NOTE: The census definition of "gainful workers" in 1920 and 1930 is not strictly comparable with the "labor force" definition used both by the 1940 Census and the W.P.A. employment surveys. It is felt, however, that these differences in definition do not materially affect the relative indications provided by the estimated index of the available farm labor supply. Since the preparation of these estimates, the Bureau of the Census has made slight revisions in the 1920 data on gainful workers. The effect of this revision when incorporated in the above estimates, will be to raise slightly the labor supply estimates for 1920-30. The effect on the index values would be very minor. It should also be noted that the data on nonagricultural employment from 1929 on are far more adequate than the limited information available prior to 1929. The estimated index numbers of available farm labor supply are believed to be generally superior to the estimates for prior years.

of this assumption is supported by data shown in the chart on page 27. Percentage changes from year to year in the supply of farm labor, as reported by farmers, are compared on this chart with the percentage changes in the estimated supply of farm labor. This is shown both for the estimated April labor supply and for the annual averages for each year since 1920. 2/ The very close correlation between the relative changes in the two series of data suggests that an approximation to the actual level of the farm labor supply is provided by the estimates of the number of persons comprising the major sources of the farm labor supply.

A further indication of the relative adequacy of the estimated labor supply index is provided by the data shown in the chart on page 29. Here it will be noted that the estimated index of the available farm labor supply is closely correlated (inversely) with the changes in farm wage rates. Since wage rates are determined both by the supply of and the demand for farm labor, the relationship between the labor supply and farm wage rates is more clearly brought out by the supply data when adjusted for changes in demand. A similar relationship is shown by crop reporters' data on supply of and demand for farm labor in relation to wage rates (see chart on page 31).

On the basis of the above estimates it is possible to compare the current supply of farm labor with the supply each year since the first World War. It is estimated that in 1941 the supply of available laborers for farm work averaged 11 percent less than during the period 1935-39 when farmers reported that the supply of farm labor was in excess of the demand. The estimated index of the 1941 labor supply of 89 (using 1935-39 as a base) was 12 percent less than the supply in 1940 when the index stood at 101.

With war production and industrial employment expanding rapidly, a further substantial reduction in the available supply of farm labor during 1942 is certain. Nonagricultural employment in March of this year was about three and one-half million persons more than in March a year ago, while unemployment has decreased during this period by more than three million persons. Preliminary indications for 1942 as to the possible size of the Nation's labor force and current trends in nonagricultural employment suggest that the supply of available farm labor in 1942 may average about 10 percent less than in 1941. This, however, does not mean that actual farm employment will necessarily show a corresponding decrease in 1942 relative to 1941. During the first 3 months of this year farm employment was at approximately the same level as in the corresponding period a year ago, although the available labor supply was substantially smaller. A decrease in the available farm labor supply of 10 percent would mean, however, that the 1942 supply of farm labor would be smaller than in any other year since 1918. The preliminary estimate of the index of the potential farm labor supply for 1942 is 80 percent of the 1935-39 average compared with an index of about 83 for 1919.

The reductions since 1940 in the farm labor supply reported by crop correspondents have been larger than the decreases indicated by the estimated index of the potential farm labor supply. The reported decrease in 1941 of 21 percent

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1/ The estimated labor supply for April relates to the early part of the month; farmers' reports relate to April 1.

under the 1940 supply compares with a decrease in the estimated labor supply of 12 percent under 1940. Preliminary estimates for April 1, 1942, point to a reduction in the farm labor supply of about 10 percent under 1941. Reports from crop correspondents, however, indicate a reduction of 19 percent from April 1 of last year. The estimated figures on the potential farm labor supply should be taken as an additional indication of the probable level of the farm labor supply, rather than as one that displaces the indications reported by crop correspondents.

The estimated over-all figures of the farm labor supply supplement and help to interpret the farmers' reports of the labor supply in terms of the normal situation. An analysis of the labor supply data for the period 1920 to 1942 indicates that the "normal" reported by farmers is, in general, an accurate presentation of the upward trend in the available farm labor supply from 1929 to 1940. In some years the reports from farmers tend to underestimate the decrease in the supply, as compared with an assumed normal, while in other years there is apparently some over-statement. Thus, for example, an adjustment of the crop reporters' labor supply estimates to the probable "normal" indicated by their reports suggests that the decrease in the farm labor supply between April 1, 1941, and April 1, 1940, may have been about 12 percent. A similar adjustment in the reported percentages of normal for April 1942 suggests that the actual decrease from the April 1941 level also may have been about 12 percent. Reductions of this size in the labor supply during the past 2 years are in close agreement with the decreases estimated on the basis of independent data.

TENTATIVE REVISIONS MADE IN ESTIMATES OF FARM EMPLOYMENT

Revised series of estimates of family and hired workers on farms in the United States are published in this report for 1934 to date. Also included, for the first time, are estimates of farm employment by States. These were prepared by the Bureau of Agricultural Economics as part of the Department's expanded farm labor program.

It should be noted that relatively minor changes from the previous United States series have been made, primarily on the basis of data enumerated by the Bureau of the Census in the spring of 1940. The Census of Agriculture obtained in April 1940 a record of the number of workers on farms during the week of September 24 to September 30, 1939, and March 24-30, 1940. These data were supplemented with returns regarding employment by occupational classifications as enumerated on the Census population schedule. These indications have been taken into consideration in this preliminary revision of earlier National and geographic division estimates of monthly farm employment. Consideration was also given in some type-of-farming areas to indications secured from sample enumeration surveys made in Iowa and Arkansas by the Division of Agricultural Statistics in cooperation with the Work Projects Administration in those States.

All in all, relatively few changes in the original estimates of farm employment have been made because both of the diversity of indications derived from other source material and lack of comparability between the Bureau's estimates and other independent data on Census base dates. Widely divergent indications of agricultural employment are obtainable, for example, from Census of Agriculture and Census of Population material for April 1, 1940. Both of these

censuses omit workers from 10 to 13 years of age, whereas the Department's estimates include these youngsters when they are actually working. Furthermore, a comparison of 1940 Census coverage with that for earlier years suggests the possibility of underenumeration in instances where a decline in the number of farms is greater than can be explained on the basis of independent economic series. The Department's estimates of farm employment on April 1, 1940, agree rather closely with enumerations of the Census of Agriculture for family labor, including farm operators.

Information available in the Department indicates, on the other hand, that the trend in the number of hired workers suggested by Census of Population appears entirely reasonable. The Department's estimates of hired hands were revised accordingly.

The Census of Agriculture enumerated 9,694,000 persons 14 years of age or over as working on farms on April 1, 1940. This compares with the revised estimate of 9,686,000 for total farm employment. The 1930 Census obtained data on the number of workers 10 to 13 years of age on the basis of which the 1940 Agricultural Census figures, as well as the estimates for other years, have been increased to include this group of workers. In the 45 States for which the Census of Population data are now available the records indicate a total farm employment about 30 percent lower than the Census of Agriculture enumerations for the same States on the same date.

Total workers on farms during the week preceding October 1, 1939, have been revised upward about 3 percent to 12,241,000 persons. The Census of Agriculture enumerated 11,250,000 workers on October 1, but when this figure has been adjusted for incompleteness and for workers from 10-13 years old, it agrees quite closely with the revised estimate for October 1.

Revision in the number of family workers on farms in the United States were slight, with only minor changes in the annual average number of workers. Seasonal employment figures show a decline for the winter months of January, February, and March, but an increase during the summer months of July, August, and September when school-age children were available for full-time work on farms. With the upswing in industrial activity and increased opportunities for industrial employment, farm family employment has shown a gradual decline from an average of 8,702,000 workers in 1935 to an average of 7,829,000 family workers in 1941.

Previous estimates of hired labor on farms on April 1, 1940 were reduced 6 percent to 2,010,000 persons (10 years of age or over) working on farms to the levels indicated by the Census of Employment. Revised estimates place hired workers on farms on October 1, 1939 at 3,280,000 persons, an increase of about 8 percent over the previous figure. Adjustments in the estimates of hired labor to the census indications resulted in a lower number of hired workers on April 1, but a somewhat higher number in the fall.

The average number of hired workers on farms in the United States increased from 2,346,000 in 1934 to a high of 2,631,000 in 1937 and declined to 2,532,000 in 1940.

Information obtained on W.P.A. sample enumeration surveys in Arkansas and Iowa in 1940, 1941, and 1942, as well as Census of Agricultural data, indicates that seasonal trends in family and hired workers are somewhat more pronounced than were formerly estimated. Adjustments have been made accordingly on this information and on other available data regarding total labor requirements.

5.7

MORE WOMEN WORKERS IN AGRICULTURE

Returns from the special farm labor mail survey of over 41,000 farms in the United States on April 1, 1942 showed approximately 13 percent of the total workers on these farms to be women. This is a much higher percentage of female workers in agriculture than shown by the April 1, 1940 Census of Employment, which reported only ~~1.5~~ percent of all agricultural workers to be women. The trend toward greater use of female workers on farms appears to be definite although the shift may not be as extensive on all farms as on those operated by labor reporters.

Farm women and girls have gone to work at doing light chores, milking, and light field work in many regions as regular male workers have left to take industrial jobs and to join the armed forces. The shift to female workers has been particularly heavy in the South Atlantic, West North Central, and Pacific Coast States.

In the Carolinas, Georgia, Florida, the Dakotas, Washington, and Oregon as many as 20 percent of all agricultural workers were reported as women. This tendency clearly reveals the importance of farm women in the attainment of agricultural production goals for 1942. So far this season the use of children under 14 years of age, except for the performance of incidental chores, has not been extensive.

Another interesting feature of the reports made by farm labor correspondents on the first of this month was in regard to the work status of all persons living on farms. Here again the returns may not be representative of conditions throughout the country but the comparisons bring out several very interesting sidelights on the labor situation. In southern New England, New Jersey, and Delaware, for example, from 10 to 15 percent of the persons living on farms are reported to have off-farm jobs and non-farm work. In the Southeast, after accounting for persons living and working on their farms, houseworkers, persons in their household working off the farm, the aged and infirm, infants, and children in school, the returns showed a residual of from 6 to 14 percent of the farm population which was inactive but available for farm work. Much less unused labor was reported on farms in most other parts of the country. Reported information on work status of the farm population is shown by States on page 25 of this report, as well as by special crop areas within the States of New Jersey and Florida. This latter detail was secured through an enumeration of portions of those States as a part of the Department's enlarged program for the collection of farm labor statistics.

U. S. Department of Labor
Children's Bureau
Washington

March 7, 1942

POLICIES ON RECRUITMENT OF YOUNG WORKERS FOR WARTIME AGRICULTURE

Statement Prepared by the Children's Bureau in Conference with Representatives of the Office of Education, the Department of Agriculture, and the U. S. Employment Service, and Approved by these Agencies.

As the Nation's all-out war effort progresses, it may be necessary in some areas to recruit young people not ordinarily in the agricultural labor force for assistance in harvesting the crops. In all such cases their recruitment for agricultural work needs to be so planned as to assure safeguards for their health and welfare and to protect them from unnecessary interference with their education. Policies for the employment of young workers should be developed with full regard to laws on child labor and school attendance and to safeguards necessary to protect the health and well-being of these young workers and the continuity of their education. Specifically, the recruitment of young workers for agriculture should be planned and conducted in accordance with procedures providing that--

All plans for the use of young workers are developed as part of broad programs for meeting the needs of agricultural labor based on consideration of all available sources of labor and the wages and working conditions offered to adults;

State departments or agencies dealing with education, labor, health, and agriculture participate in the development of policies regarding recruitment of young workers and possible modification of school programs, and in the application of these policies to local situations;

Proposals for employment of young workers during normal school terms are approved only after the Farm Placement Service of the United States Employment Service for the several States determines, on the basis of full information on the labor situation, that the anticipated need for labor cannot be filled by older persons resident in the locality or reasonably available from outside the locality.

In recruiting young people from school when a real need for agricultural workers has been found to exist--

> Youth 16 years of age and older should be engaged before children aged 14 and 15 are called upon; the schools should make every effort to develop programs that will wisely dovetail school activities with agricultural work and will result in no curtailment of school terms;
>
> Children 14 and 15 years of age should not be released from school nor their school programs modified unless it is found that the need for farm labor is an essential one and cannot be met in any other practicable way; in such case adjustment in school attendance and programs should be arranged to interfere as little as possible with normal school opportunities and progress.

School work and home duties should constitute the only work activities of children under 14 years of age; and such children should not be employed in agriculture outside the home farm.

When young workers are placed in agricultural work, provision should be made for safeguarding their health and welfare through reasonable hours of work; wages at not less than established prevailing rates; safe and suitable transportation where needed; and, for those living away from home to be near their work, provision of fully adequate housing accommodations, supervision, medical care, and leisure-time activities.

This statement of national policy is made in the belief that the principles presented are essential for safeguarding children, are fully compatible with the needs of wartime production, and will facilitate the constructive participation of youth in the Nation's great productive effort.

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PRESS INTELLIGENCE
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DATE MAY 17 1941

Survey Shows 800 Per Cent More Women Work On Farms

Washington-(AP)-A special agriculture department survey on the farm labor situation indicated Thursday that employment of women in agriculture had increased more than 800 per cent during the past two years.

Approximately 13 per cent of all workers on 41,000 typical farms in the survey were found to be women. Two years ago women made up only 1.5 per cent of all workers.

This would indicate officials said, that around 1,200,000 women were now employed as farm workers compared with only 143,000 two years ago.

"Farm women and girls," the department said, "have gone to work doing light chores, milking and light field work in many regions as regular male workers have left to take industrial jobs and to join the armored forces."

The shift to feminine workers was found to be heavy in south Atlantic, west northcentral and Pacific coast states. In the Carolinas, Georgia, Florida, the Dakotas, Washington and Oregon as many as twenty per cent of all agricultural workers were reported to be women.

Despite reports of a growing shortage of agriculture workers, the department said that the number of persons employed on farms on April 1 was only 97,000 less than a year ago. The number employed was said to be 9,483,000.

To meet the sharp competition from other industries, farmers made more than the usual seasonal increase in farm wage rates during the past month, the department said. Rates were said to average 28 per cent higher than a year ago.

WOMEN'S BUREAU
U.S. Department of Labor
Washington

Excerpts from:

MATERIAL ON THE WOMEN'S LAND ARMY IN GREAT BRITAIN

September, 1942

WOMEN'S BUREAU
U. S. Department of Labor
Washington

EXCERPTS FROM GREAT BRITAIN, HOUSE OF COMMONS, SIXTH REPORT FROM THE SELECT COMMITTEE ON NATIONAL EXPENDITURE. SESSION 1940-41

WOMEN'S LAND ARMY

Recruitment and Numbers.

71. Following the example set in the last war the Ministry of Agriculture had been at work for some time before September 1939, on plans for supplementing male agricultural labour by an auxiliary body of women known as the Women's Land Army . . . .

Auxiliary Force.

72. Regular members of the Land Army are enrolled for the duration of the war, but in addition there has been, and still is, recruitment of seasonal workers, known as the Women's Land Army Auxiliary Force, who are prepared to work on farms for at least four weeks in the spring, summer and autumn. . . .

Employment of Members by Forestry Commission.

73. It should be noted that in order to prevent inter-departmental competition a certain number of the members of the Women's Land Army have from the outset been placed at the disposal of the Forestry Commission. The number is small and fluctuates according to seasonal demands. Moreover transfers as between Forestry and Agriculture are not necessarily permanent. . . .

Expenditure.

74. Provision for the Women's Land Army is made under War Services. The details of the expenditure are shown below:

Table IX	1939-40 Actual Pounds	1940-41 Estimated Pounds
1. Expenses of County Committees	14,142	36,000
2. Uniform and equipment	90,072	65,000
3. Training	49,968	55,000
4. Hostels	-	3,000
5. Contingencies	1,316	2,000
Total gross expenditure	115,498	161,000
Receipts	83	3,500
Net expenditure	£ 115,415	£ 157,500

Receipts are due mainly to sales of supplementary articles of uniform and equipment.

Terms of Service and Wages.

75. Although full members are enrolled for the duration of the war, there is no legal power to compel them to remain in the Land Army against their will. This is a weakness for which it is hard to prescribe a remedy other than care in selecting girls who are likely to stick to their job and who join under no misapprehension as to the nature of farm work. We have noted in paragraph 80 below the encouraging fact that since the beginning of the war wastage has dropped from 20 percent to 5 percent.

76. The employment of members of the Women's Land Army, as of other agricultural workers, is subject to the requirements of the Agricultural Wages Acts, under which County Agricultural Wages Committees determine minimum wage rates to be paid to agricultural workers in their areas. In the early days, however, as women's agricultural wage rates varied considerably from area to area, and as members of the Women's Land Army, drawn from all areas, both urban and rural, are required to be available for work in any part of the country, which may be some distance from their own homes, it was considered essential to lay down an overriding minimum wage to be paid to them. The figure chosen for this purpose was, for those of 18 and over, 28s for a working week of up to 48 hours, plus 7d. an hour for hours worked in excess of 48. There is no legal sanction attaching to the payment of this wage, as there is with the minimum wages laid down by Agricultural Wages Committees: but farmers who to employ members of the Women's Land Army are required to agree to do so on a weekly basis (and to pay at least this wage if the statutory minimum is less) so as to guarantee weekly earnings sufficient to cover living costs irrespective of weather conditions. In most countries minimum wage rates determined by Agricultural Wages Committees have now risen considerably and are above the Women's Land Army own minimum rate; where this is so the county minimum rate is the lowest that can be paid. There is no maximum rate for any agricultural worker. Since the recent rise in county minimum wage rates, which in some counties are now as high as 38s. for a 48-hour week, the rate of increase in the employment of members of the Women's Land Army appears to have slowed down.

Members of theWomen's Land Army Auxiliary Force are also subject to county rates, but in their case also the employer is required to undertake to employ on a weekly basis and to pay (to a worker of 18 or over) at least 28s. for a working week of up to 48 hours.

Organization.

77. At the Ministry the directing machinery of the Land Army forms part of the Man Power Division. The Honorary Director is Lady Denman, who is immediately responsible to the Head of the Division. She has, as personal assistant, a former Secretary of the Federation of Women's Institutes. Lady Denman is also assisted by a Principal in the Ministry who bears the title of Chief Administrative Officer.

78. For the purpose of local administration County Committees have been created, each with a paid Secretary. Increase of work has led in some cases to the appointment of paid Assistant Secretaries and County Organizers. . . .

The selection of the Chairman was naturally a matter of great importance. They were appointed by the Minister on the recommendation of the Hon.Director after consultation with the Land Commissioners, the Chairman of the War Agricultural Executive Committees, and other persons possession local knowledge. In all Counties the Chairman or some other member of the County Committee is a member of the County War Agricultural Executive Committee.

The duties of the Committees consist of interviewing and selecting candidates, arranging for training and the issue of uniform, placing members in suitable employment and maintaining touch with them while on farms. The Committees as a rule are divided into Sub-Committees, each of which deals with a particular area of the county. Much use is made of members of Women's Institutes in looking after the welfare of girls at work on the farms. . . .

79. Our main criticism of the county organization is that it introduces what appears to be an unnecessary duplication of machinery for the purpose of giving local effect to ministerial policy. . . .We are of the opinion that greater efficiency, if not economy, would have been secured if the local organization of the Women's Land Army had been entrusted in each area to a sub-committee of the Agricultural Executive Committee. If that had been done, the Land Army would have had the benefit not only of the close and intimate contacts established by the Executive Committees with farming interests of every kind, but of help from the expert agricultural staffs of the County Councils who have been taken over by the Executive Committees. It can hardly be doubted that the pooling of office accomodation and clerical assistance would have made both for convenience and economy. . . .

Selection.

80. The opinions that have been expressed about the suitability of the girls selected for the Land Army very widely. There are those who say that many of the girls are unsatisfactory and would never have been selected if the persons who interviewed them had understood the needs of the farmers and the type of girl required; that the seamy side of farm work has not been fairly placed before volunteers, who have consequently become discouraged and prone to throw up their jobs. Others are full of praise of the willingness of the girls to face hardships and the increasing efficiency with which they have tacked the work.

. . . . .It is, at any rate, significant that since the inauguration of training the rate of wastage among trained members of the Army has dropped from 20 percent to under 5 percent - a fact which points to greater care in selection.

81. We also wish to draw attention to the importance of treating the month's training as a period of probation, at the end of which the original selections should be reviewed. It is true that some weeding out takes place during or at the end of training, but the probationary character of the period should be definitely made clear.

Training.

82. When recruitment for the Women's Land Army was first opened the proportion of applicants who already had some knowledge of farming was naturally high. For less experienced recruits training courses had been organised even before the war and were attended by about 900 volunteers at their own expense. Since the outbreak of war the cost of training has been defrayed from public funds. . . .

84. Training courses usually last a month and are of two kinds:
(a) at Agricultural Colleges, and
(b) on approved farms.

The general, but not invariable practice, is to send girls from industrial areas to the Colleges and those from country districts to the farms. . . .

Uniforms.

It is evident that the free issue of uniforms is one of the attractions as well as of the necessities of the Women's Land Army. We have no reason to suppose that the uniform is not well designed for the purpose or that the issues are not economically handled.

Accomodation and Welfare.

85. The question of providing accomodation for members of the Land Army, particularly of the Auxiliary Force, has caused some difficulty, and authority has been given for the establishment of temporary hostels and camps, provided that the cost does not exceed 5s. per worker accomodated per week. Five such hostels for seasonal workers were started in the summer of 1940; three of them were closed at the end of the season and two have been continued for the use of full members of the Army.

87. Arrangements for visiting the girls on farms and for looking after their welfare generally are entrusted to members of the Committees and Sub-Committees and to other voluntary helpers. The Women's Institutes have given valuable help in this connection.

Conclusions.

88. We are satisfied that the Women's Land Army is an indispensable feature of the war effort and that its members have made a valuable contribution to the campaign for increased production. Nevertheless the impression left by the evidence is that, while there has been no lack of zeal on the part either of organisers or volunteers, progress has been hampered by numerous fluctuations in demand.

It is evident from the figures quoted in this section of the Report that the Land Army has by no means reached the limit of expansion and utility that may properly be expected. Warnings have already been issued indicating that further demands will shortly be made by the fighting Services on the present male farm staffs. If those demands are fully and clearly known, it behooves farmers without delay to forecase and apply for the supplementary labor that will be required in order that the Chiefs of the Women's Land Army may make their plans accordingly both for recruitment and training.

SUMMARY

The full development of the Women's Land Army has been hampered by uncertainty as to the demand for supplementary farm labor. The result has been wide fluctuations in recruitment and employment.

It is recommended:

a. That the County Committees of the Army should be merged in the organization of the County War Agricultural Executive Committees;

b. That the time spent under training should be treated as a period of probation;

c. That farmers should without delay forecast and apply for the supplementary labor that will be required.

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WOMEN'S BUREAU
U.S.Department of Labor
Washington

SELECTION FROM COX, MARY D., BRITISH WOMEN AT WAR. London, John Murray and the Pilot Press, Ltd. 1941.

WOMEN'S LAND ARMY

Every ounce of food that can be produced on British soil is of vital importance as a munition of war. Thousands of additional workers are needed on the land, and the Women's Land Army has been organized to meet this need. It is a mobile force consisting of women who have not hitherto been employed in agriculture, but who are ready to accept service for the duration of the war in any part of the country where they may be wanted. The organization of the Land Army is under the control of the Ministry of Agriculture and Fisheries, while the enrolment, training, and placing of recruits is undertaken by the Women's Land Army County Committees working in close touch with the County War Agricultural Executive Committees.

In July 1941, 14,600 members of the Land Army were employed in England and Wales and a further 1,300 in Scotland. Fresh volunteers are being placed in employment at the rate of about a thousand a month, while applications for more workers are continually being received from farmers and from War Agricultural Committees. Women have been drawn from all classes and professions, for, while a knowledge of agricultural operations is naturally an asset, a four weeks' course given at a farm, or training centre, will supply some of the necessary preliminary knowledge to any woman who has the keenness, intelligence, and physical stamina to make a valuable Land Girl. Women who have worked in shops and offices and dreamed of living in the country, have been given the opportunity to realize their dream, and farmers who regarded the idea of employing women with the deepest suspicious have become converted to the point of clamoring for more.

Women are now employed in all branches of land work, including dairying and the care of livestock, tractor driving, hedging and ditching, vermin destruction, threshing and thatch-making. They undertake field work and horticulture, whether in market gardens or private vegetable gardens. A certain number of volunteers are specially trained for forestry work and are employed not only in the planting and cultivation of young trees, but in felling timber for pit props, topping and chopping, burning charcoal and clearing shrub. There are also a certain number engaged in the worker of timber measurement, both before the timber goes into the sawmill and after it emerges. Yet another section travels about the country assessing the value of the standing timber before it is purchased.

Women who have spent their lives in towns have discovered that they were born with the gift of hands that will induce a cow to give milk freely, or handle the reins so that a stubborn farm hourse will obey their guidance; women have even learnt to plough a straight furrow, whether they steer a

a tractor or a pair of horses. Though they work in so-called "safe areas," the spice of danger has not been left out of their lives: one farm hand was saved from death by a land girl who pulled off the bull that was trampling him, while another girl herded stampeding cows to safety from a farm set ablaze by incendiary bombs.

In order to meet the need for short-term workers during the harvest season, the Women's Land Army County Committees were instructed to recruit an auxiliary force of women who were willing to give a minimum of four weeks' service on the land. These volunteers might work either in their own locality or be transferred to other parts of the country where they are urgently needed.

WOMEN'S BUREAU
U.S. Department of Labor
Washington

EXCERPTS FROM THE LAND WORKER, "WOMEN AND PART-TIME FARM WORK,"
MAY, 1942.

. . . . . .

In this country there are thousands of women who, for one reason or another, are unable to join the Women's LandArmy or take up whole-time work on the land, but who could well spare half a day, or a week-end, or a few hours now and then. Such women are to be found in every village and hamlet. There are many jobs which they could do--potato planting, hoeing, and singling roots, fruit-picking, pea-picking, haymaking, harvesting and threshing; and every hour they worked would count. . . .

Most County War Agricultural Executive Committees have set up Emergency Land Corps with representatives in villages. These representatives--for the most part members of Women's Institutes or of Women's Voluntary Services--canvass and enrol volunteer women workers in their districts. The women, when placed, work when and where they can near their homes, and they are paid at the county agricultural rate for unskilled women workers.

The Minister of Agriculture appeals to all women who have the necessary health and strength, and who can give part-time service on the land to enroll at once. If there is no Land Corps representative in their neighborhood, they should get in touch with their County Agricultural Executive Committee who will tell them what to do.

The shortage of labor on the land became acute during the last war and the work of women was a valuable aid to farming. We do not mean the Women's Land Army only, but part-time village workers of whom more than 200,000 lent a hand. We hope many wives of farm workers will respond to the present urgent call. They could hardly make a more important contribution to the war effort.

WOMEN'S BUREAU
U.S.Department of Labor
Washington

EXCERPTS FROM: "THE WOMEN'S LAND ARMY." By J. A. PRESTON.
WOMEN'S EMPLOYMENT, FEBRUARY 7, 1941.

. . . . . .

The Land Army was organized in order to provide an additional source of female labour for farmers and market gardeners which in peace-time is not available. For this reason it does not include amongst its members country women who in any case are normally employed on permanent or seasonal agricultural work. That being so it will readily be understood that by far the greater proportion of Land Army volunteers is recruited from the towns and cities. There is a natural prejudice amongst farmers against the employment of town dwellers but this prejudice is rapidly diminishing and, as a county organizing secretary, I can give startling examples of the outstanding success of girls, who, before the war, hardly knew the difference between a cow and a cabbage.

. . . . . .

Rates of Pay

The Land Army minimum rate of pay is 28/- for a 48-hour week with overtime at 7d. per hour weekdays, 8d. per hour Sundays. Agricultural wages, however, vary in different counties and where the female rate of pay is greater than the Land Army minimum, Land Army volunteers are paid at the county rate. In Shropshire our Land Girls are paid 32/- for a 48-hour week, overtime 8d. and hour on weekdays, all Sunday work 9d. an hour. When the volunteers are living in the farmhouse the employer is entitled to deduct 15/- a week for board and lodging. In no county may a land girl receive less than 14/-nett cash weekly wage if she is billeted at the farmhouse. All volunteers have to pay National Health and Unemployment Insurance contributions.

Every volunteer is supplied with an excellent working outfit and is granted certain replacements at the end of six months and others at the end of 12 months.

Travelling expenses are paid to and from Land Army posts.

Training

After enrolment volunteers without previous experience of land work are entitled to four weeks' Government training which may be given either at an agricultural college or on an approved farm. During training, recruits receive a personal allowance of 10/- a week less insurance contributions, with free board and lodging. Volunteers may themselves decide upon the type of training which they wish to have, that is to say, they may be trained for dairy or general farming, poultry farming, tractor driving or horticulture. So far as agriculture is concerned, dairy farm work is one branch in which Land Army volunteers have been particularly successful. Women usually make good hand-milkers, and are also capable of handling and managing milking machines. Land girls also take easily to care of livestock, which is interesting work and animals respond favorably to female handling. Work for

WOMEN'S BUREAU
U.S.Department of Labor
Washington

CHRISTIAN SCIENCE MONITOR. "FROM DAWN TO DUSK THEY TOIL FOR VICTORY."
By MELITA SPRAGGS. WEEKLY MAGAZINE SECTION. AUGUST 8, 1942

Membership in Britain's Women's Land Army is now 39,000, whereas the peak figure for this service was 16,000 in World War I. Under the honorary directorship of Lady Denman, D.B.E., it has broken much new ground. Prejudice against women land-workers had to be overcome before they could help to any considerable extent on established farms, or in plowing up and wresting food from the 6,000,000 acres of grassland which have been brough under cultivation in Britain since 1939.

Country-wide plans for increase in home food production, and a further call-up of men in agriculture, trebled the membership of the Women's Land Army in the year 1941-42. Girls from many occupations are working on the land--ballet dancers artists, manicurists, shop-girls, office workers, telephonists milliners, domestic workers and so on.

The present rate of acceptance is only one in every three applicants. Two women who are good judges of character interview the applicants. The rigors of the work are emphasized. This search for the right type has meant far fewer "desertions."

A month's training at an agricultural college or on a farm is given for specialized work, but many girls are placed in immediate employment on farms. The official age for candidates is from 17 to 40. The land girl's uniform, which is supplied free of expense to the recruit, is accounted one of the most attractive of those of the women's services in Britain. It includes khaki riding breeches and shirt, green wollen pullover, brown felt riding hat, knee-length woolen stockings, and walking shoes. For winter, a three-quarter khaki overcoat, rather like an army officer's "British warm," is supplied.

The Land Army can be divided roughly into four main sections. These are: Those engaged on horticulture; these girls work chiefly for market gardeners. The second group are those employed by individual farmers to work on farms. A third section is organized into gangs to operate wherever they are needed, and a fourth group is employed by the Home Timber Production Department of the Ministry of Supply.

Threshing gangs work in this way, traveling around with their machinery, working at each farm for a few days. One farmer who had vowed he would never "be bothered with women workers," capitulated when the threshing tackle turned up at his farm with the engine man and five land girls. "I must tell you that I have never had better help with the threshing," he said when the job was done.

In Suffolk, members of the Land Army are learning the craft of hand-thatching as it has been practiced in Britain for centuries. As proficiency is reached only after long experience, and ricks and barns must be thatched

quickly to prevent damage from rain, a machine has been invented which makes the straw into a thatched mat for fixing over the ricks like a straw roof. Land girls quickly become adept at operating this machine.

Groups of land girls form horse plow and tractor teams. They operate the machine, do running repairs, and look after the horses. Excavator-teams help with the extensive land drainage schemes carried out in the Fen district and elsewhere. Others are experts in handling grass-drying machines.

The Home Timber Production Department has a special women's Timber Corps to supply lumber camps, throughout Great Britain. With the help of Land Army workers the Forestry Commission hopes to keep pace with the increased felling of timber necessitated by war needs. New Plantations are set with young trees grown in nurseries.

Of the land girls working on farms, some specialize in dairy, stock, chickens, lambs or pigs. Others do general farm work--hedging, ditching, silage-making, milking, and the thousand and one other jobs which go to make up the farmer's day. Ruth Lloyd in a plowing contest, set up a record which many skilled plowmen would find difficult to beat.

The land girl works long hours. Wages differ in various counties, but when she has paid for board and lodging she can reckon on a minimum of 18 shillings for a 48-hour week, with extra for overtime. Uniform, with renewals, is supplied free of expense to the worker. The National Union of Agricultural Workers is working for an alteration of conditions and hopes to secure a 48-shilling minimum wage for a 48-hour week. Securing reasonable conditions of employment so that the girls were guaranteed regular employment throughout the year and a living wage to enable them to support themselves away from home are difficulties with which the Land Army authorities have had to contend all alone. They have always stipulated that the land girls shall not be expected to do domestic work as part of their duties. The Land Army tries to secure that each worker gets one week's continuous leave during the year, with an occasional week end.

Conditions in the Land Army differ from those in the other women's services in that there is no system of promotion or wage increases apart from the Good Service badge awarded for every six months of satisfactory service. Some employers give wage increases as they find their land girls become more useful. The land girl signs on "for the duration." She is a member of a state organization, under the Ministry of Agriculture but is employed by a private individual.

Many of the town girls have found that their work and the amenities of a village community amply compensate for the loss of sophisticated entertainment. Some have found the country dull, but most have discovered they have much to give as well as to learn from the country folk.

McNutt Expects One Of Every Six Women To Be at War Job

12-Member Policy Comittee Is Set Up to Mobilize Workers

Star 9-4-42

By the Associated Press.

Manpower Chairman Paul V. McNutt said today that one of every six women over 18 years old not now in the labor force would be needed in the war effort. He established a 12-member Women's Policy Committee in the War Manpower Commission.

"One out of every four housewives, perhaps one out of every three, between the ages of 18 and 44 will be employed," he said.

Miss Margaret A. Hickey, owner and director of a school for secretaries at St. Louis, was named chairman of the Women's Policy Committee, which will aid in mobilizing the women workers.

Mr. McNutt explained the committee would consider questions of important policy concerning the Manpower Commission's program for training as well as recruiting women workers, and would work closely with the commission's Management-Labor Committee.

1,400,000 Busy Now.

Brig. Gen. Lewis B. Hershey, selective service director, said recently that able-bodied men in industries would be drafted, and that they must be replaced by women and older [redacted]

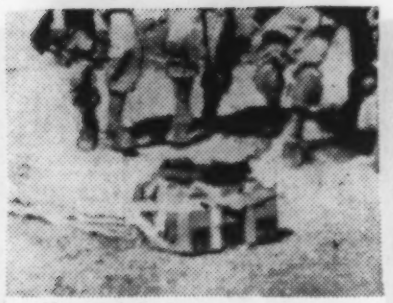
"In[redacted]ption of women in our [redacted] effort is [redacted] Mc-Nutt said. "War production alone employed about 1,400,000 women last Decmeber. This figure will jump to 4,500,000 by December, 1942, and will climb to 6,000,000 by the end of 1943. By then, women will represent at least 30 per cent of the labor force employed in war production.

"Over 18,000,000 women must be gainfully employed by the end of 1943, so 5,000,000 women must be added to the total number now employed."

Miss Hickey is vice president of the National Federation of Business and Professional Women's Clubs. She also is a lawyer and member of the Missouri bar.

Other Committee Members.

Other committee members named by Mr. McNutt are: Mrs. Dorothy Belanca, Amalgamated Clothing Workers of America, New York City; Miss Jenny Matyas, International Ladies' Garment Workers' Union, San Francisco; Miss Bess Bloodworth, vice president in charge of personnel, Namm Store, Brooklyn; Mrs. Harris T. Baldwin, vice president National League of Women Voters, Washington; Mrs. Lewell Hobart, past national president American Legion Auxiliary, Cincinnati; Mrs. Beatrice Gould, editor Ladies' Home Journal, Philadelphia; Mrs. Blanche M. Ralston, until recently regional supervisor of service programs for region three of the Works Projects Administration, Coahama, Miss.; Mrs. Shidie Orr Dunbar, director Oregon Tuberculosis Association, Portland; Mrs. Gladys Talbott Edwards, director junior department, Farmers' Union, Jamestown, N. Dak.; Mrs. Maudelle Bousfield, principal Wendell Philips High School, Chicago, and Miss Ruth Allen, University of Texas, Austin.



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Good Samaritan Victim of Man Seeking Lift

Edwards Gardner is going to be more careful about speaking to strangers hereafter.

One spoke to him early today in a Connecticut avenue restaurant, asking for a lift home. The hour was late, so Mr. Gardner thought he would be a Good Samaritan.

When they arrived at Mr. Gardner's car, however, the man turned out to have a friend. And the friend turned out to have a knife, which he pointed at Mr. Gardner to emphasize his order that he drive to the Gardner residence at 1403 Twenty-eighth street N.W.

On arrival there, the two blindfolded Mr. Gardner, forced him upstairs at the point of a knife and tied him to a chair with a bed sheet. Then they walked out, taking a suitcase containing men's apparel, a wrist watch, a small amount of cash and [illegible] items, the total value [illegible] police report[illegible]

Finally, they drove away in Mr

OCCUPATIONS

AGRICULTURE - 1943

1413 Massachusetts Avenue, N.W.
Washington 5, D.C.
September 14, 1943

Miss Mary V. Robinson
Press Section
Women's Bureau
Labor Department
Washington, D. C.

Dear Miss Robinson:

Having just returned from two weeks at Camp Blue Ridge, Timberville, Virginia, where there is a canning plant employing women labor, I thought you might be interested in my observations.

First, I worked in the cannery as a tomato peeler for only 7½ hours, one day. This is my first experience in industrial work so my observations are those of a novice. Second, my trip was not official so my observations are made as an individual citizen not as a Department of Agriculture employee.

While I knew that headline reports of industrial pay have been greatly exaggerated, it was a surprise to find that the maximum an ordinary worker could earn by working 10 hours a day, 6 days a week in the cannery was $18 minus deductions for withholding tax, etc. (I understand the total take-home pay minus deductions is between 15 and 16 dollars.) Pay is at the rate of 30¢ an hour. It is the same for new and experienced help, for men and women.

Women do practically all the tomato peeling. No seats are provided. They must stand the 10 hours. I understand that when some of the workers moved over boxes to sit on the foreman told them that that was against the rules -- the idea being that they could peel more tomatoes if they were standing. For my own part, this seemed quite contrary to the facts as I became so tired from 7½ hours standing that I am sure my efficiency was impaired. My ankles swelled and my back practically killed me but there were other women working who had been peeling day after day, and night after night. While Washingtonians were surprised and dissatisfied with the pay, many of the local people thought it was good and seemed to regard the proprietor, H. S. Zigler, in the light of a benefactor.

Lunch period is three quarters of an hour and a morning and afternoon rest period of 15 minutes each were provided without pay. Food prices at the cannery cafeteria seemed high in proportion to the low salary paid. The main course of a dinner is 40¢ without a beverage. With drink and dessert it adds up to 55¢. Actually it seemed that some of the workers were paying practically all their wages back to the proprietor for food.

Zigler seems to have been ingratiating himself in the community by acts of noblesse oblige such as, keeping on superannuated employees and giving rides to people. Actually I had a ride to Washington with him and thereby heard his side of the story which is to the effect that wages are frozen and he cannot pay any more. That he could raise wages to 40¢ an hour but then his foreman would be getting the same as the ordinary workers and that would not do. This version was contrary to my understanding of the situation, but I am not familiar with wage regulations and imagine it goes over well in the community.

Very truly yours,

Elizabeth Spence

Miss Elizabeth Spence

Sept. 14,'43.

Miss Robinson,

Elizabeth Spence from the Dep't of Agriculture came to see you, and left this letter for you.

K.B.

45161

Jones: 3367 or 4026

OFFICE OF WAR INFORMATION
Department of Agriculture

For Immediate Release
Thursday, August 26, 1943

AG-709
X-19678

Mexican, Jamaican and Bahamian Farm Workers Praised

- - -

Reporting that 57,489 workers from Mexico, Jamaica and the Bahama Islands have come to this country to date for agricultural employment, Marvin Jones, War Food Administrator, today praised the ability of these workers and described their efforts as being of utmost importance to the production of food and fiber for war needs.

Of the total, 43,963 came from Mexico, 8,828 from Jamaica, and 4,698 from the Bahama Islands. The latter two countries are British crown colonies and the workers brought in are English speaking. By the end of August, another 3,139 Mexicans will have arrived to do farm work. In addition, more than 14,000 track workers have been supplied by Mexico to the United States for employment on railroads through the efforts of the War Manpower Commission.

"We are grateful to these workers for the way in which they responded to our appeal for their help in alleviating our farm labor shortage, and for the valuable assistance they have been giving our farmers," said Mr. Jones.

"These workers are separated from their homes and families by thousands of miles. They have had to adapt themselves to habits, customs and climatic conditions that differ considerably from their own. Yet these workers have shown an admirable spirit of cooperation and generally have conducted themselves in a way that is a credit to their people.

"Mexico, with a population of 20 million, has already supplied nearly 60,000 workers within one year to a neighboring country. Considering the difference in population, this is equivalent to some Nation requesting our own to supply about

400,000 workers for employment outside our borders. Figures such as these bring home true realization of the magnitude of Mexico's contribution in this field alone.

"Jamaica and the Bahama Islands have made a similar contribution. Both these countries have small populations, compared to our own, and yet they have willingly supplied large numbers of some of their ablest workers."

Mexican Nationals have been employed in agriculture in 12 Western states. The crops in which they have worked include truck vegetables, citrus and other fruits, sugar beets, guayule rubber, long staple cotton and hops. On July 31 there were 22,075 Mexican Nationals in California, 1,936 in Oregon, 1,704 in Washington, 1,257 in Montana, 984 in Arizona, 624 in Colorado, 559 in Idaho, 549 in Nevada, 285 in Wyoming, 284 in Nebraska, 91 in South Dakota, and 67 in Kansas.

Jamaicans and Bahamians have been employed largely in East Coast states and in the Middle West. Some of the principal crops which they have helped harvest are citrus fruit, beans, peas, sweet corn, potatoes, tomatoes, asparagus, sugar beets, and cigar tobacco. On July 31 the Jamaicans were distributed as follows: 1,942 in New Jersey, 1,524 in New York, 1,046 in Wisconsin, 1,000 in Connecticut, 747 in Michigan, 638 in Illinois, 560 in Idaho, 357 in Minnesota, 314 in Iowa, 309 in Pennsylvania, 186 in Indiana, and 181 in Ohio. The distribution of Bahamian workers on July 31 was: 1,785 in Maryland, 754 in North Carolina, 699 in Virginia, 393 in New York, 301 in Tennessee, 260 in Florida, 105 in Delaware, and 13 in South Carolina.

The workers have come into this country to relieve farm labor shortages in critical areas under agreements between the governments of the United States and of Mexico, Jamaica and the Bahama Islands. When the need for their services has passed, the workers will be returned to their home countries.

Food Information Series
United States Department of Agriculture
Office of Information
Washington 25, D. C.

MVR
your copy

July 31, 1943 No. 47

Subject: Advice for Women and Girls doing Farm Work

Field Distribution: War Board members, Extension Editors, BAE analysts, FDA Marketing Reports Chiefs, SCS, FSA, FCA Regional Information Chiefs

Suggested use: For press and radio releases; speeches.

1. What To Do To Get Into Condition for Farm Work.

As most farm work calls for the use of all muscles, the goal to be sought is top-notch physical condition. If women are to undertake a course of 3 or 4 weeks of training for farm work it would be highly desirable to have along with that training a program of physical conditioning carried out under the supervision of a trained physical education worker. The plan for such a program might well be arranged by a committee of experts in the field. Because women's muscular make-up is quite different from that of men, the vigorous setting-up exercises arranged for men in the military service might well be supplanted by exercises of a different type for women.

Where girls or women go to work on farms with no previous training, the most important thing to keep in mind is that they must start easy. For any but young women in the best of physical condition, a workday of 6 to 7 hours is ample for the first week. The step-up to a full-time day could come perhaps the second week. One of the advantageous facts about most farm work is that the worker will become fatigued and inclined to stop or slow down before actual injury from overwork occurs.

If it is not possible for beginners to have a shorter workday than the others because of transportation or similar complications, they can take longer and more frequent rest periods.

2. How To Use Muscles Correctly When Bending, Lifting, Hoeing, etc.

The chief caution to be observed in weight lifting is to bend the knees and not the back when picking up any heavy article. This enables the strong muscles of the legs and thighs to take the strain of the lifting, whereas bending over and picking up a heavy weight by straightening the back will be extremely likely to cause back strain or serious muscular injury. For the same reason, when hoeing or bending over for weeding, do not assume a round-shouldered or bent-back position. Keep the back straight, bend from the waist; and squat with knees bent, stopping to change position and straighten out now and then.

1/ Information from the Women's Bureau, U. S. Department of Labor.

3. Lifting Heavy Objects--How Much Weight Can a Woman Lift?

There has been much discussion as to how much weight a woman can safely lift. The average girl or woman in good condition can lift or carry 25 pounds without any difficulty. She can lift 25 to 35 pounds without fear of doing herself injury, provided she lifts the weight in a proper manner. But if she lifts continuously weights of 35 pounds and over she might become tired, and when tired strain or injure herself. Whether a woman can lift over 35 pounds depends on the woman. Many could lift up to 50 pounds without doing themselves harm. Exceptional ones might lift a little more, but any continuous work of lifting weights over 35 pounds without mechanical aid should not be encouraged.

In this matter of weight lifting, consideration should be given to the question whether the work is done for a short period within an hour or two, or whether it is continuous--that is, a continuous repetition of the work. Short periods of such work would be all right. Continuous lifting of such weights would probably be too fatiguing and cause much injury. Weights should not be lifted higher than the level of shoulders or head. Up to that point, the muscles of the legs and thighs help, but above that the strain comes on the back or shoulders and strain or other injury is more likely to result.

A combination of weight lifting and carrying is bad. Thirty-five-pound vegetable crates can be lifted and loaded much more easily than they can be carried a considerable distance. Carrying at the top of capacity is bad, even if two people are sharing the burden, because such an arrangement leaves no reserve for any emergency. Two girls might carry between them a 40-quart milk can which, full would weigh something over 100 pounds. If they do this they are using about all their strength and would have no reserve, and if one should make a misstep or stumble, the extra burden thrown on the other might result in a strain, because she would have no reserve to take care of the extra burden.

There is no question that women have neither the muscular reserve nor the muscular strength of men. Their entire muscular system is a different set-up made for lighter and less exacting work. They should not be pushed to the limit of their strength, nor should they lift or carry too heavy weights.

4. Safe Working Habits for Prevention of Accidents.

The most essential safety habits for women who undertake farm work are:

A. Conserve strength, particularly at first, by getting plenty of sleep and rest. If necessary, go to bed right after supper the first 2 weeks. A tired worker is more likely to have accidents, is more likely to catch cold or catch anything that is going. Your first war job is to conserve your strength and health. Nothing does so much for that as sleep. Do not undertake farm work without a doctor's certificate of physical fitness.

B. Learn to use your muscles correctly. Do not lift by bending your back and pulling with your arms. Squat down with back straight and pick up weights by straightening your leg and thigh muscles. Do any job you can by squatting and straightening

rather than by bending and straightening. Never try to do anything--stretching, pulling, lifting, etc.--that requires the utmost effort you can put out. That is the time you may do yourself harm. Learn to jump from low elevations, landing lightly on the ball of the foot with knees bent.

C. Wear suitable clothing. Do not wear shorts and halters. They are unsuitable from every angle. Overalls rolled to knees or cut off at knees, colored long-sleeved shirts (sleeves can be rolled up), shade hat or cap, sweater, raincoat (rubber or oilskin), and rubber boots, are essential for the variety of weather that may be encountered on any farm. Work often must be done in wet or rainy weather. Gloves and dark glasses are often useful, and a bandanna to cover nose and mouth during a very dusty job. When very hot and perspiring, do not cool off by sitting in a breeze. If you stop working under such conditions and cannot get a bath and a rub-down, put on a sweater till you are cool and dry.

D. Tools and machinery. When you are given a job that requires tools, find out how to use them properly. Always stand hand tools up against something. If they are left lying on the ground someone may step on them and hurt himself. Before you attempt to use any machine, get instructions, and be sure you understand them. Don't try to find out how to operate any machine by experimenting. Never make any adjustments on a machine with the engine running.

E. Animals must be treated firmly, gently, and quietly to get good results. Never shout or yell at them. Enter a horse's stall on the left side. Harness from the left side and watch out for the horse's heels. Milk cows on the right side. If you are not sure of your courage with loose cows, carry a light stick. Remember a loose cow with a young calf may be resentful of anyone's approach, so keep away from her unless tied up. Never trust any bull.

F. When going to a new place learn your way around. Remember where stairways are, where you step up or down.

5. What is the Treatment for Sunburn?

Everyone agrees that prevention of sunburn should be sought rather than treatment. Women and girls should be warned not to work, especially for the first few days, with short sleeves, or with too thin shirts, or with jersey shirts cut low in the neck, and not to go without hats even if they "always do" in their ordinary occupations.

Besides such precautions, an application of some of the creams that are also good treatment after burns will prevent the quick burning of the skin before it tans. Standard remedial ointments or 5-percent tannic acid jelly (the last-named stains clothing 2/) are good preventives. There are on the market many creams and lotions to induce tan and prevent burning, and a list of them is published by the Consumers' Research (July 1942). In general, creams have more base and are more lasting than lotions. A tube of cream can be carried in the pocket easily, a bottle of lotion less easily.

2/ For methods of removing stains see "Stain Removal From Fabrics: Home Methods," Farmers' Bulletin No. 1474, U. S. Dept. of Agriculture (page 10).

In case of a painful sunburn, tannic-acid jelly (5 percent), which comes in tubes or jars, probably gives as much relief as anything. Its drawback is that it stains clothes and bed linen 2/. Several standard ointments give relief also and do not stain. A wet dressing of baking soda or Epsom salts (dessertspoonful in glass of water) is also relieving.

If the skin is blistered it should be kept covered with a sterile dressing over tannic acid jelly or an ointment, or wet dressings (which must not be allowed to dry out and stick to skin). If the burn is extensive or very bad, it would be advisable to see a doctor. If sterile dressings are not available, use clean, freshly ironed old cotton or linen cloths.

Sunstroke and heat exhaustion. Sunstroke may occur among farm workers from overexposure and exertion in the hot sun. The person suffering from sunstroke will probably have a headache, feel nauseated, and will develop a high temperature. Her skin will be hot and dry and her face very red. She should lie down at once in a cool place with her head a little higher than her body, and should be made cool, possibly through the application of cold water or water-soaked cloths to the head and body. Heat exhaustion might occur among farm workers who overexert themselves in intense heat inside, such as in the haymow during haying or in the silo treading ensilage. In these cases the worker will be very pale, perspire excessively, and her pulse may be very weak. She will need to be given stimulants, which is never done in the case of sunstroke, and be kept warm. 3/

6. How To Care for Blisters, Cuts, Bee Stings, Insect Bites, and Poison Ivy.

Blisters. Prick with a needle that has been dipped in alcohol or held in the flame of a match to sterilize it. Prick on the outer rim of the blister and gently press fluid out. Do not break skin.

If use of the blistered part is likely to break skin, as when blister is in palm of hand, cover with sterile gauze taped on with adhesive. Keep covered till healed.

Cuts. Minor cuts should not be sucked with the mouth or washed in water. This also applies to a scrape. Apply any good disinfectant; 2 percent iodine or mercurochrome are two of the best known, but there are many others. Cover with sterile gauze or sterile bandage and keep covered till healed over.

Bee stings and insect bites. These are often quite painful and mildly poisonous. Do not scratch. If sting can be seen in the bite, pull it out. Applications of alcohol, or water with a little ammonia in it, may relieve stings. Witch hazel or calomine lotion may relieve bites. They will not last long unless they become infected by scratching. Cold applications are relieving. Mosquitoes or flies in a room may be killed by the use of a good insect spray.

Poison ivy. All farm workers should have poison ivy pointed out to them at once by their employers and should be warned of its danger. Hospitalization for a week or more may result from a bad case. Remember that one is much more susceptible when perspiring freely (with open pores), as in haying.

2/ For methods of removing stains see "Stain Removal From Fabrics: Home Methods," Farmers' Bulletin No. 1474, U. S. Dept. of Agriculture (page 10).

3/ The cause, symptoms, and treatment are given in greater detail in the American Red Cross First Aid Textbook. See 1940 reprint, p. 188.

If contact with ivy is suspected, bathe exposed parts as soon as possible with rubbing alcohol, using a sopping rather than rubbing motion. Then sop with a solution of one teaspoonful of chlorox in a glass of water (an even stronger solution is sometimes used on thick skins). A 5-percent solution of permanganate of potash is good but leaves dark-brown stains. Calomine lotion may help in mild cases. Remember there is no known cure for poison ivy and the intense itching and swelling can be very distressing. Learn to recognize this three-leafed vine and avoid it. Never burn it. The smoke is fully as poisonous as the leaves or stem and may close the victim's eyes completely. Poison ivy infection appears first as a faint rash; then small blisters develop and itch intensely. Do not scratch. It should be over in 1 or 2 weeks. Remember that prevention is better than cure. If no remedies such as alcohol or chlorox are available, wash exposed parts thoroughly with thick lather of brown soap (do not scrub with brush). It is well worth the few cents it costs to have alcohol, chlorox, and permanganate of potash crystals on hand. Five cents worth of the last named would last months.

7. Amount of Water To Drink and How Much Salt.

Water should be drunk freely, but not ice water. If a jug of water is carried to the field, workers should have their own cups and not drink out of the jug or a common cup. When workers perspire freely, they may use 1/8 to 1/4 teaspoonful of salt to each glass of drinking water to replace salt lost through perspiration. When working in intense heat the addition of a little raw oatmeal to the water makes it more refreshing and invigorating than plain water.

8. Care of the Feet.

The feet should be protected by clean, whole socks and comfortable low-heeled shoes. Workers should not go barefoot around the farm, as there is too much danger of stepping on a rusty nail or bit of machinery, or getting stone bruises. The feet should be bathed every day and nails kept closely trimmed.

9. How To Get the Most Out of a Few Minutes Rest.

It is difficult to say how frequently rest should be taken, because the variety of work on a farm may bring natural breaks in the work, when relaxation and rest will come from change of location, occupation, or position. If the work is continuous and steady, such as hoeing, cultivating, or weeding down very long rows, the amount of rest that should be taken would have to be dictated by the worker's condition. Generally speaking, 10 to 15 minutes in the middle of the morning and the middle of the afternoon is considered a desirable rest period in industry. In continuous farm work, two rest periods a day of 15 minutes each in addition to the lunch period might be plenty.

It is not always possible to set a definite amount of time for rest. When a worker feels so tired that she feels she must stop before going on with the work, she should do so. In farm work the muscular fatigue probably will cause a worker to pause for rest before any actual strain from overwork has developed.

The most rest can be obtained from a few minutes' pause in the work by lying flat on one's back, nothing under the head, and drawing the knees up enough to relax the tension of the back. Lying flat on one's back and raising the feet and resting them against a tree or fence or other object is also good. While taking this rest relax as completely as possible.

ADVANCE RELEASE

Smith Farm
Please file

ADVANCE RELEASE: For SUNDAY Papers, April 4, 1943
Snure - SS 221
Flynn - WMC 2467

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION PM-4354

Carrying out the President's program for returning men of farm experience to dairy farm production, the Selective Service Bureau of the War Manpower Commission today announced it had advised local boards of major steps to be taken to expedite this phase of the "back to the farm" movement.

The plan for returning qualified workers to dairy farm production includes:

(1) Cooperation with the Department of Agriculture State and County War Boards to persuade Class IV-F (physically unfit for military service) men between the ages of 18 to 45 to return to dairy farm production if they have had experience in such work but are not now so engaged and are not in any other activity which is essential to the support of the war effort.

(2) Cooperation with War Boards to get men over 45, who have had dairy farming or general farming experience but who are not now engaged in essential activities, to go back to dairy farming activity.

(3) Extension of the age limit for men now engaged in acitivities or occupations listed as nondeferrable by the War Manpower Commission. Heretofore the age limit was from 18 to 38 years but under the new program it includes men 18 to 45. Registrants engaged in nondeferrable acitivities or occupations -- after April 1, 1943, for those 18 through 37 and after May 1, 1943, for those 38 through 44 -- lose all claims for dependency deferment, except under unusual circumstances. They are given 30 days to get into agriculture or other essential activity if they register with the Unnted States Employment Service for such a transfer, otherwise they may be classified as available for military service.

(4) Agreement with the War Department that no more outright discharges from the Army will be granted to men who attained their 38th birthday prior to February 28, 1943, upless their applications were made before April 1. Hereafter, such men will be transferred to the Enlisted Reserve Corp, with the approval of State Directors of Selective Service, and only if they are to engage in agriculture or other essential activities. Men transferred to the Enlisted Reserve Corps will be recommended for recall to military service if they fail to engage in essential work.

The outstanding features of the new program to get men to return to dairy and other farming and to other essential activities are included in three memorandums sent by Maj. Gen. Lewis B. Hershey, Director of Selective Service, to local boards. One of these, entitled, "Procurement of Workers For Farms Producing Substantial Quantities of Dairy Products," says in part:

(over)

X-13121

"Because of a rapid depletion of avilable manpower, the national interest at this time demands that men within the ages liable for military service who have qualifications that are not now being used in furtherance of the war effort and who at the same time are not acceptable for service in the armed forces, simply by reason of age or physical disability, be required to employ their efforts in those essential activities in which shortages of necessary manpower threaten the successful prosecution of the war effort. In order that this objective may be accomplished, sources from which such men can be made available must be determined and steps inaugurated which will accelerate their placement in capacities where they can make positive contributions to the war effort."

Then, pointing out that County War Boards of the Department of Agriculture know whether shortages of qualified dairy farm workers exist, the memorandum advises local boards that upon request of the War Boards they should furnish them the following:

(1) a list of the names, addresses, and present occupations of all registrants between the ages of 18 and 45 classified in Class IV-F who have had dairy farming experience or experience in general farming, and who are not now engaged in any type of farming activity, and who are not in any other type of activity essential to the war effort.

(2) A list of the names, addresses, and present occupations of all registrants between the ages of 38 and 45 who have had dairy farming or general farming experience, who are engaged in activities or occupations that have been designated as nondeferrable, or who are not in any type of activity which is essential to the war effort.

(3) A list of the names, addresses, and occupations of all registrants over 45 years of age who are not now engaged in essential activities and who have had dairy farming or general farming experience.

When the County War Boards receive these lists of registrants, they will notify them by letter that within 30 days from the date of mailing of such letters they should get in touch with the War Boards. The memorandum states:

"The letters to registrants in Class IV-F and those between the ages of 38 and 45 will inform them that if they do not contact the County War Board within the time prescribed, that fact will be brought to the attention of their local Selective Service board so that consideration may be given to requesting waivers of physical disabilities and age, or both, which would permit their induction into the armed forces.

"Letters directed to registrants over 45 years of age will simply stress the need for dairy farm workers and urge them to return to work on farms which produce diary products as their national duty in furtherance of the war effort."

As to men who are engaged in activities or occupations designated by the War Manpower Commission as nondeferrable, an amended memorandum to local boards reiterates the pronouncement that men engaged in such activities or occupations will not be permitted deferment on the basis of dependency. Such men between the ages of 18 through 37, effective April 1, who have not transferred to agriculture or other essential activity or registered with the U. S. Employment Service for such transfer, will face consideration for reclassification as available for military service. They are allowed a period of 30 days to transfer. The same rule applies to men who are in the age bracket of 38 through 44, effective May 1.

As to the transfer of men over 38 to the Enlisted Reserve Corps, the memorandum states:

"Under new procedure, enlisted men who were 38 years of age on or before February 28, 1943, will be released from active service and transferred to the Enlisted Reserve Corps upon their making application for release supported by evidence in the form of a letter or statement from prospective employer or other responsible person to the effect that the enlisted men concerned will be employed in an essential activity, including agriculture, if he is released from active service in the Army and provided the State Director of Selective Service of the State in which he is to become employed has approved the application for release."

Furthermore, the memorandum states, the man must remain employed in an essential activity, including agriculture, if transferred to the Enlisted Reserve Corps or be subject to immediate recall.

Men transferred to the Enlisted Reserve under this plan must report to the local board designated by the State Director of the State within which he is to be employed within five days after his release from active service. The local board will assign a Selective Service reemployment committeeman, several of whom work with each local board, to be responsible for keeping informed of the activities of the particular enlisted reservist. If the enlisted reservist fails to continue in an essential activity it will be the duty of the reemployment committeeman to notify the man's local board immediately and unless there are extenuating circumstances make the recommendation that he be recalled to active service.

Flynn-WMC-749
Ward-USDA-5606

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION
DEPARTMENT OF AGRICULTURE

AG-241
X-12776

For Immediate Release
Tuesday, March 30, 1943

In line with the development of programs designed to relieve manpower shortages in the food industry, the War Manpower Commission and the Department of Agriculture today emphasized food's importance in the war effort and appealed to employees in the various phases of production and processing necessary to the food program to remain on their jobs.

A misunderstanding among these employees as to the importance of their contribution to the war program has been causing men and women to leave their work indiscriminately for other employment, it has been reported. If this trend continues it may result in the loss of essential products.

The following types of activities necessary to the food program, it was reiterated, are specifically designated as essential by the War Manpower Commission, and key occupations in these activities are contained in Selective Service Activity and Occupational bulletins:

All phases of farming; food processing; production of agricultural equipment; production of materials for packing and shipping products; production of chemicals and related products, including fertilizers, insecticides and animal and vegetable fats and oils; warehousing and storage of essential and perishable commodities; agricultural services such as hatcheries, seed processing, farm repair and maintenance, and farm product assembly services.

In addition to the above, declared essential on a nation-wide basis, the War Manpower Commission said it had issued instructions to its regional directors providing for designation of food distribution activities as "locally needed" in areas where labor shortages actually exist or where they are anticipated. This designation will assure recruitment and placement services but will not in itself establish eligibility for consideration for occupational deferment from military service.

It was pointed out that these various activities "all are needed in the food production chain and workers engaged therein are contributing to the war effort." They added that it is most imperative that experienced men and women remain in these food industries.

ADVANCE RELEASE

ADVANCE RELEASE: For TUESDAY AFTERNOON Papers, March 23, 1943.
Greenblatt - WMC - 2036

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION PM-4344

The Women's Advisory Committee of the War Manpower Commission today called upon women's clubs throughout the country to mobilize their members for active service on the nation's farms this summer.

This mobilization, it was emphasized, is not to meet an immediate need but for one foreseen in the summer. It is not expected that women can be given immediate agricultural employment on farms and in food processing establishments in all sections of the country at this time. Applicants for agricultural work will be called as the needs arise in their respective localities.

In a statement to members of women's organizations the Committee, headed by Miss Margaret A. Hickey of St. Louis, urged physically able women to take a "personal responsibility" in meeting critical agricultural labor needs in their communities.

Women's organizations were asked first to find out from their County Agricultural Agent or local U. S. Employment Service Office what are farm labor needs in their particular localities. In those communities where such labor is urgently needed, they are urged to poll their memberships for those willing to work on farms on a seasonal, vacation, or full-time basis and to give this information to the County Agricultural Agent or the U. S. Employment Service. One or the other of these agencies, it was pointed out, has an office in each locality and has responsibility for recruiting and referring farm labor.

Other activities suggested for women's organizations were to aid in mobilizing young people for farm work and provide necessary supervision of their living conditions; to assist local government officials in recruiting farm workers, and to acquaint women generally with the seriousness of the farm and food production problem through club educational program.

The full text of the statement by the Women's Advisory Committee follows:

"The Women's Advisory Committee of the War Manpower Commission recognizes the imperative need for immediate action in order to meet this year's demand for agricultural workers, and affirms that there must be no hesitation on the part of physically able women to assume a personal responsibility in meeting the farm labor needs in their communities.

"The Women's Advisory Committee is convinced that women can and must contribute enormously to food production by supplementing and replacing farm manpower.

"Women's organizations are in a position to assist materially in meeting this demand for agricultural labor, both through their educational programs and their organization membership. The Women's Advisory Committee commends those women's organizations which have responded to the war-time emergency by remaining active on a year-round basis, with no cessation of organizational activity during the summer months.

X-12252

"At this moment of national crisis in our agricultural situation, and in view of the food requirements of the United Nations, the Women's Advisory Committee recommends and urges that women's clubs and organizations at the community levels immediately appoint agricultural committees to:

"(1) Obtain information as to the agricultural labor requirements in the particular locality from the U.S. Employment Service or the County Agricultural Agent. One or the other is in every locality and has the responsibility for recruiting and referring agricultural labor.

"(2) In those areas where agricultural labor is crucially needed, urge women from the club membership to accept agricultural employment on a seasonal, vacation, or full-time basis whenever and wherever possible; in club meetings find out those willing to do farm work and the type of work which they can do and give this information to the local office of the United States Employment Service or the County Agricultural Agent.

"(3) Urge women to aid in mobilizing young people for work on farms and provide from the club membership the names of those who can give supervision to these young people to assure proper transportation to and from work; working conditions not injurious to their health; and adequate meals and rest periods.

"(4) Urge those women of the organization's membership unable to accept farm employment to volunteer their services to either the County Agricultural Agent or to the local office of the United States Employment Service to aid in mobilizing workers for agricultural employment.

"The Women's Advisory Committee of the War Manpower Commission has full confidence that the women of America will step forward and do their share in relieving farm labor shortages in every agricultural community in the United States."

Charles: AG-3367 or 4026

Sent To [illegible]

For Immediate Release
Tuesday, March 23, 1943 AG-206

The Department of Agriculture said today that Dr. Frederic B. Knight will head the Victory Farm Volunteer program for the Extension Service. The Department in cooperation with the Office of Education has laid plans to recruit and place on farms a half million high school and college youth this summer as a part of the U. S. Crop Corps of 3,500,000 workers.

Dr. Knight owns and operates two midwestern corn-hog farms. As director of the Division of Education and Applied Psychology at Purdue University, LaFayette, Indiana, Dr. Knight has had wide experience in the field of education. He was born in Springfield, Mass., graduated from Boston University, received his Master's degree from Harvard University, and his Doctor's degree from Columbia University.

As director of School Survey in Gary, Indiana, and author of several books on education, he is in responsible contact with educational problems of the day.

He is a member of the Society for the Advancement of Education, the Psychological Association, and the Society for the Study of Education.

Commenting on the appointment, M. L. Wilson, Director of Extension Work said, "We are fortunate to have a man of Dr. Knight's educational background and experience assist us in further developing plans for placement and supervision, by county extension offices, of the nonfarm youth that will work on farms this summer. He will also cooperate with the Office of Education in recruitment and training given these workers."

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Charles: AG-4026

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OFFICE OF WAR INFORMATION
DEPARTMENT OF AGRICULTURE

For Immediate Release
Monday, March 15, 1943

AG-157
X-11782

To help farmers make most efficient use of present farm labor and new workers enlisted in the U. S. Crop Corps, the Department of Agriculture today announced the outline of an intensified educational program to reach every farm.

The program will be carried on by county extension agents. An expansion of established extension programs, the labor efficiency program contains three major phases:

(1) to assist farmers with problems of organizing and managing their farms to save labor;

(2) to help them train new workers on the job; and

(3) to assist farmers in perfecting ways for simplifying many of the key jobs on the farm.

This help to farmers is one phase of the department's total labor program.

M. L. Wilson, director of extension work, pointed out there are many ways in which farmers can make their available labor go further. As labor becomes critically short, these take on added importance, and farmers are paying more attention in every possible way to saving labor and making it more productive.

Through small group meetings, farm visits, letters, leaflets, through neighborhood leaders and other educational means, county agricultural agents will offer suggestions to farmers in every community on how they can save labor by adjusting crops and livestock to keep labor fully employed, improved layout of fields, greater use of labor-saving practices and devices, removing working hazards, planning work ahead, keeping tools in good condition, exchanging labor, sharing equipment, and other farm management changes.

This year farmers face the biggest job of training new workers they have ever had. It has been adequately proven in the war industries that, by recognizing a few principles of job instruction, workers can be quickly trained to do things they never have done before. Those principles applied to farm job training will be made available to all farmers using new labor through small training demonstrations, job instruction outlines, and other ways.

Starting the new worker off right will cut down the time it takes him to learn the job, avoid waste of materials, damage to equipment, and accidents -- all of which slow down necessary food production.

In addition to most efficient farm organization and management and proper training on the job of new workers, farmers this year face a real challenge

(Over)

of simplifying their ways of doing the key jobs to eliminate unnecessary operations. Many jobs on farms, such as milking cows and handling eggs, are repeated several times a day. Many farmers have found ways of saving steps and time in doing these and other key jobs.

The best results of research and experience of farmers in work simplification are being brought together and will be made available to all farmers. Farmers will be assisted in thinking through key jobs, rearranging jobs, combining steps, and devising handy arrangements that save steps and time, and make fullest possible use of all available labor.

WOMEN'S BUREAU
MAR 22 1943
DEPARTMENT OF LABOR

March 1943

LATEST CHILDREN'S BUREAU MATERIAL ON WARTIME AGRICULTURE

Wartime farm labor shortages brought about increasingly widespread employment last year of non-farm youth for agricultural work. Some of this employment was successful from the point of view of the farmers, the young people, and the community; some of it was a disappointment and failure from the point of view of everyone concerned.

In the light of this experience the Children's Bureau of the U. S. Department of Labor set up a Subcommittee on Young Workers in Wartime Agriculture which met in November 1942 to consider what principles could be formulated as guides for the successful employment in 1943 of non-farm youth in wartime agriculture. The subcommittee is composed of representatives from the Federal agencies concerned, youth-serving agencies, farm, labor, education, safety, and health groups, other organizations interested in youth, and includes persons who had participated in successful programs for the employment of youth on farms last year.

The enclosed pamphlet, "Guides to Successful Employment of Non-Farm Youth in Wartime Agriculture," sets forth minimum standards for the successful employment of non-farm youth in farming now geared to war; these standards are based upon the recommendations of this committee at its November meeting. It is hoped these guides may be of use to those who are planning for the employment of young farm workers this coming season.

Additional copies are available for the use of organizations and individuals on request to the Children's Bureau.

Also enclosed is a reprint "Farm Accident and Insurance Problems of Young Workers," which supplements the principles outlined in the "Guides." In addition, the Children's Bureau has mimeographed two reports: "Observations on Emergency Programs for the Employment on Farms of Workers Under 18 Years of Age, Summer and Fall, 1942," and "Accident Hazards to Young Workers in Wartime Agriculture." A limited number of copies are available on request to the Bureau.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

WOMEN'S BUREAU FARM PROGRAM

A statement by Jennie Mohr, Associate Industrial Economist, Women's Bureau, United States Department of Labor, at the Farm Safety Section, National Safety Council, Chicago - 2.30 p. m., October 5, 1943

The Women's Bureau is interested in the welfare of the wage-earning woman whether she is in a torpedo factory or a turnip patch. Today because of the critical need for farm labor there are hundreds of women learning for the first time how to wield a hoe, plant a straight row, how to make friends and influence animals.

Food and Labor Needs

These women are a part of our great army of production. The tank and the tractor -- the soldier and the farmer -- all are an integral part of our war effort. It is true that without food we cannot win the war. Every day our Government buys more than three million dollars worth of food for our armed forces. Every day five million dollars worth of food is sent to other United Nations. Every day there are 126 million civilians in our country that must be fed. American farmers and food processors face a gigantic task -- a task that will increase as time goes by, for as the Axis -- occupied countries are freed food will be their first need.

Over two million women farm workers employed during the 1943 peak helped to produce this food.

Since women have not been generally considered a source of supply for farm work in this country, most farmers, except perhaps truck farmers in some areas, are without knowledge of the capacity of many women to work as paid farm hands, or the preparations that must be made for their employment. Simple statements of what women have done successfully, and of how the problems of

fitting women into farm jobs andproviding suitable living standards can be solved do much to persuade the farmer to utilize this source of labor wherever it is available and there is a shortage of male labor. The Women's Bureau is supplying this as well as other scientific information to various agencies responsible for recruiting and organizing women for farm work.

Our Bureau has made various studies and recommendations for women in farm work, stressing, in particular the safety and welfare standards which should be maintained. A bulletin, "Guides for Wartime Use of Women on Farms" was issued last year. Many of our publications and studies concerning women in industry have sections in them which also are applicable to the woman farm hand. For example, our bulletin on lifting weights, certainly applies to the farm woman as does our bulletin on "Recreation and Housing for Women War Workers", as well as many others.

Our agent for the New England States has been especially active in her work for women farm workers and has assisted the Women's Land Army in developing State programs. She has inspected numerous farms on which women were used this past season. Her work has been primarily on such phases of the program as — wages, hours, living conditions, suitability of the woman to the job, changes needed in conditions on the job; hazards of the job and so forth. Some of our agents are on State farm labor committees. All are familiar with the general labor supply conditions of their regions, and all are trained observers of factors pertaining to women's employment.

Cooperation with the Women's Land Army

The Women's Bureau is working closely with the Women's Land Army, which has charge of women's recruitment and placement. At the request of its director, Florence, Hall, our Bureau prepared the data for the physical examinations

of women who were to do agricultural work and also prepared material for this agency, advising woman farm workers on health, safety, and other problems connected with their work. This relation with the Women's Land Army will be continued, the one agency furnishing the scientific basis for the action of the second agency.

Material prepared for the Women's Land Army in addition to the physical examination includes suggestions on:

(1) What to do to get into condition for farm work.

(2) How to use muscles correctly when bending, lifting, hoeing, etc.

(3) Lifting heavy objects - how much weight can a woman lift?

(4) Safe working habits for prevention of accidents.

(a) Conservation of strength.

(b) Learning to use muscles correctly.

(c) Wearing suitable clothing.

(d) Proper use of tools and machinery.

(e) Learning how to treat animals.

(5) Treatment for sunburn, sunstroke, and heat exhaustion.

(6) How to care for blisters, cuts, bee stings, insect bites, and poison ivy.

(7) Amount of water to drink and how much salt.

(8) Care of the feet.

(9) How to get the most out of a few minutes rest.

Women's Bureau Surveys

The problems concerning women farm workers which the Women's Bureau is studying include:

(1) Type of work done; advisable adjustments to fit farm jobs for women's best work; occupational hazards involved.

(2) Essential physical characteristics of workers, such as age and health, for each type of job; training required to perform tasks in different occupations; training of supervisors.

(3) Hours of work, rest periods, and so forth, bringing about best production.

(4) Housing and food standards; costs for unit groups.

(5) Supervision of women living on individual farms.

(6) Transportation to and from farm.

(7) Problems when living in farm home.

(8) Wages paid for different types of work and cost of living under various housing conditions.

(9) Attitude of farmers toward women workers and attitude of women toward agricultural employment as a result of the 1943 experience.

It is believed that the data obtained by investigating these subjects will not only disclose the problems which must be met in each area but will indicate the methods of meeting such problems in formulating standards for the use of women on farms. Such data will, of course, be available to the Administrator of Food Production, the chief of the Women's Land Army, and their several State assistants charged with the recruiting, training and placement of agricultural workers, their transportation and shelter. Upon the collection of material in any area the Women's Bureau will prepare a report of its findings; recommend basic standards concerning employment, including:

(a) Type of agricultural work and conditions under which it may be carried on effectively by women.

(b) Groups available to carry on specific types of farm work.

(c) Measures to be taken prior to employment, such as parental consent, physical examination.

(d) Types of training programs advisable.

(e) Orientation of women workers.

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

6/3/43

WOMEN IN
AGRICULTURE -- GENERAL

The nation's food goal this year is 8% higher than last year's record production, 38% higher than the average production over the period 1935-9. At the same time, it is estimated that from April 1940 to October 1943, more than 4 million actual or potential farm workers will have left farm work for the army or industry. It is hoped that 3.0,000 urban women will answer the call for farm labor this summer and fall, 300,000 for part-time work during the peak of the season, 60,000 for periods of one month or more with the Women's Land Army.

Although the labor shortage is acute in all branches of food production, the greatest need for additional workers is in the large specialized farms, especially dairies and poultry farms, the canning and processing industries, and on fruit and vegetable farms during the harvesting season. The greatest possibility for the utilization of women, especially city and town women, is in the processing industries, on truck farms, and on poultry farms, which require a great deal of unskilled and semi-skilled labor that is not too heavy for women to take over.

The employment of women in industry has shown that women have certain definite aptitudes and assets, many of which can be put to good use on the farm: Dexterity and speed for such operations as grading, cleaning, packing, tying produce; accuracy for keeping records, weighing and grading; patience for any of the numerous routine jobs to be done on a farm. Farm women, who in most areas, have in the past taken little part in heavy outdoor labor, have more than doubled their work in the fields, and during the peak of the season there will be practically no more unmobilized womanpower on the farms. Woman power from the cities will be desperately needed.

At first there was strong opposition to the importation of city women for work on farms. Owners and managers of large farms have been reluctant to change their traditional labor policies; farmers have been very skeptical of the usefulness of city women on farms; and farmers wives have had the feeling that city women would be in the way, and would have to be "waited on." But this resistance is being broken down. City women proved their worth on many farms last year. Traditional prejudices are being dissolved by necessity and experience; the farmers are trying to adapt jobs to women's physical capabilities, and the women are being given training to prepare them for work on the farms. Agricultural schools all over the country are offering short courses of two to six weeks to give city people the background skills, muscle toning, and psychological preparation for farm life. The latter is especially important. A city woman who shows contempt for the simplicity of life on a farm will be a hindrance rather than an asset. On the other hand, a city woman who adapts herself successfully to country living can be of service even if she has no farming skill at all.

Besides helping on the unskilled jobs, she can often release a farm woman for work in the fields by taking on her household chores such as washing clothes, sewing, tending the children, cooking, canning and preserving.

The U. S. Crop Corps and the Women's Land Army

The U. S. Crop Corps is the name given to all workers on farms or in food-processing plants who are not members of the farm family unit. The Women's Land Army, under the direction of Miss Florence Hall, is a corps of (city and town) women sponsored by the Federal Government and directed by the Extension Service of the Department of Agriculture as part of the U. S. Crop Corps. Women in the Women's Land Army have to be 18 years or over, have a doctor's certificate of physical fitness for hard farm work, and sign up for at least one month of full time work. Ten thousand out of the expected 60,000 will be needed for year-round work. They will receive 3 to 6 weeks training in an accredited agricultural school; the women enrolled for shorter periods will also be given some training. The WLA has a uniform consisting of dark blue cotton denim overalls and jacket, light blue shirt, and a two-toned cap with the WLA insignia on it. The women are placed on a farm with a labor shortage by the Extension Service. They live on the farm where they work, or some place nearby, or, if they are seasonal workers (who often work in crews), they may live in a camp. They are paid by the farmer the wage prevailing in that locality for the type of work they are doing; in New York State the WLA workers are getting (May, 1943) $40 a month plus room and board.

Women who cannot pass the physical requirements of the WLA or who cannot give a whole month to farm work are still very much needed in the U. S. Crop Corps for part-time work at the height of the local harvest season. Week-ends, one or two days a week, even a couple of hours here and there, all can be put to use bringing in and packing the crop. Women wishing to join the WLA or the local mobilization should get in touch with their local U. S. Employment Service office or their county agricultural agent; in many places, the O.C.D., the local Defense Council, or such women's organizations as the Y.W.C.A. and the A.W.V.S. can arrange for enlistment.

This material was compiled in connection with the program to promote full use of womanpower in necessary civilian jobs which is being sponsored by the Office of War Information and the War Manpower Commission with the cooperation of national magazines.

6-3-43

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN ON TRUCK FARMS AND IN ORCHARDS

1. Jobs for which women are needed

Truck farms require a great deal of manual labor, most of which can be performed by women. In a truck garden, women can prepare the soil, plant the seed, weed, hoe, spray, harvest, grade, wash, bunch and pack the produce. In orchards, women can drive the spray truck, help prune the trees, pick, grade, and pack the fruit, and truck it to market. Most of this work, however, is over by September. The main job to be done in September is harvesting and packing the late crops -- apples, tomatoes, cabbage, potatoes, turnips and squash.

2. Type of women needed

The labor needed is mostly unskilled. Strong, sturdy women are needed to dig potatoes and other underground crops. Fruit picking does not require such strength, but in harvesting such tree fruits as apples the women must be able to work from ladders without getting dizzy. Older women and handicapped women can be put to work sorting the fruit, washing, grading and packing, on the farm or in packing houses.

3. Hours, wages, working conditions

Hours at harvest time are apt to be long, especially for tomato and apple picking. Tomatoes spoil very rapidly, so there is a great rush to get them harvested and canned as soon as they are ripe. (About 80% of the vine-ripened Northern tomato crop is canned. The earlier crop in Florida and Mississippi is mostly picked green and eaten fresh.) Apples also run the danger of falling or being blown off the tree before they are picked, so it is important to get them harvested as quickly as possible. The usual working day for these three crops is from about 7:00 A.M. to 5:00 P.M., with an hour off for lunch. Workers in orchards and truck farms are paid at the prevailing rate either by the day or by the piece -- harvesting work is usually paid by the piece. In some localities, for instance in Maine, the general farm wage rate goes up slightly at harvest time. Camps are sometimes provided for transient workers.

4. Uniform

None required. Trousers are practical for picking in the trees.

5. Extent of employment of women

Some women have been used in practically all phases of truck and fruit farming. Polish and Italian women have been widely used for weeding, French Canadian women have done a lot of the heavy potato digging

in Maine, women and children of farm families have always given a hand in the truck garden and in the harvesting of fruit. Last year many city women were put to work. Students at many women's colleges helped harvest the local fruit crops. New Jersey and Maine truck farmers who tried out city women on their farms are asking for more this year. It is probable that women will be widely used on fruit and vegetable farms this summer.

6. Resistance to the use of women

There has been some resistance on the ground of the traditional opposition to manual labor for women. More resistance has come from the fact that women cannot do the whole job that the men are used to doing. This has been remedied, by the farmers who have employed women, by having one man to do all the loading and heavy work, and letting the women do all the picking.

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6-3-43

Magazine Division
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WOMEN IN EGG DRYING PLANTS

About ¼ of the eggs produced in the United States are now being dried, mainly for shipment to our allies. There are egg drying plants all through the Middle West, in large cities and small towns. Practically all of the workers are women--in a plant employing 100 people there may be only 5 or 6 men.

The chief labor-consuming jobs in an egg drying plant are (1) candling the eggs, and (2) breaking them. Both of these jobs have been done by women for some time in egg freezing plants, many of which have now added dehydrating facilities to their plants. The candling process consists of examining the eggs in front of a light in a dark room to determine their quality. It takes several weeks of training to become an efficient candler. The routine of breaking and separating the eggs and smelling them to see if they are good takes only a week or ten days to pick up. Girls in the egg breaking room must wear clean white uniforms, hair nets, and be very fastidious about their hands and finger nails. They are not allowed to wear nail polish because of the danger of its chipping off into the eggs, nor facial cosmetics, which would interfere with their sense of smell. Other jobs which women can do are unpacking the eggs when they arrive in the plant, and scrubbing the dirty ones individually with a brush before they go to the breaking room. Some plants have sand machines for this purpose.

The chief prerequisite of an egg breaker is a good sense of smell, and that of an egg candler is a good pair of eyes, plus the ability to make quick judgments.

Working conditions are the same as in industry, with a 40-hour week and pay and a half for overtime. The labor problem is most acute in war industry areas--Indianapolis, Kansas City and many others.

A few of the larger egg drying plants are:

White City Provision Company
2101 West Pershing Road
Chicago, Illinois

Christian and Company
1218 West Carson Street
Pittsburgh, Pennsylvania

Fort Worth Poultry and Egg Co.
701-715 East 9th Street
Fort Worth, Texas

DeSoto Creamery and Produce Co.
71 West Island Avenue
Minneapolis, Minnesota

Jerpe Commission Company
12th and Douglas Streets
Omaha, Nebraska

Mid-State Frozen Egg Corporation
333 West 18th Street
Indianapolis, Indiana

Teaford-Danches and Company
Highland, Illinois (near St. Louis)

Tranin Egg Products Company
217 Oak Street
Kansas City, Missouri

Seymour Packing Company
200 North Kansas Avenue
Topeka, Kansas

Super Spray Produce Company
614-616 South American Street
Philadelphia, Pennsylvania

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6/7/43

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN IN AGRICULTURE--FIELD CROPS

All over the country, women are taking on more and more of the work involved in planting, cultivating and harvesting the field crops. Last summer hundreds of women throughout the Mid-West had taken over the difficult job of running tractors and handling other farm machinery, such as harrows, disks, mowing machines, fertilizer spreaders, rakes and hay loaders; and tractor schools for women had been established in Louisiana, Arkansas and other parts of the fertile delta area. This year the number of these women farmers with machinery has greatly increased. But while handling farm machinery is highly skilled and rather dangerous work which most farmers would only entrust to their wives or daughters who have been brought up on the farm, there are many other important jobs in connection with raising field crops which could be taken over by city women. In the South, for instance, women have helped in the cultivating and harvesting of cotton and tobacco throughout the years, and now many farmers are providing transportation for city women who can help bring in the crop at the peak of the season.

Following are some of the crops on which women will be working this summer:

Cotton

The main jobs for which women's help is needed are the cotton "chopping," or hoeing, in the spring, and picking in the fall. The picking which starts in the deep South about the first of August and winds up in the Northern cotton belt in December, is now practically entirely done by women and older men and children. There is a certain amount of back strain involved in carrying the sacks, which when full weigh from 30 to 50 pounds, but older or less strong women can go at their own speed, and in some places there are men to collect and carry the sacks for the women. The picking starts as soon as the dew has dried, and lasts until dark. The city women usually go back to the city at night, but sometimes there are temporary camps or spare rooms at the farms. Cotton pickers are usually paid by the 100 pounds, and wages are expected to be higher this year than usual.

Besides picking cotton, many women have taken over the job of weighing the cotton as it is picked, and it is probable that this year women will be keeping the records and even helping with the gin work.

Tobacco

Tobacco is grown in Georgia, Virginia, the Carolinas, Kentucky, Maryland, Connecticut and some other areas. Women help in many of the

jobs involved in cultivating tobacco, such as hoeing, topping (breaking off the seed heads), suckering (breaking off the sprigs near the bottom of the plant), dusting for insects and taking off worms, but the greatest need for women workers comes at harvest time. Women sometimes help in stripping the leaves off the tobacco plants in the fields, but they are used mostly for the next step--that of stringing the leaves on sticks in preparation for curing. This job requires a certain agility, and women usually do it faster than men. Women are also good at "handling" tobacco--tying it in convenient bundles for carrying after it has been graded. This is light work and can be done by older or handicapped women who are still nimble with their fingers.

The hours are long during the harvest season, from daylight to dark. Wages are paid by the day or by the hour. Old clothes are essential, as the tobacco leaves are sticky. Heavy aprons and special long gloves to cover the arms are often worn by the women.

Other Crops

There are many other field crops which will require women's help this year. Women will be needed from September to Mid-November in Alabama and Georgia and many other Southern states to harvest the peanuts which are expected to supply a large share of our fats and oils for the coming year. Women can help stack them, bring them to the thresher, and haul them to market. Women will be needed to help shock the grain crop, as they did last year in South Dakota and other states. And many women will undoubtedly be tackling some of the heavier farm jobs, such as the work connected with harvesting hay, sugar beets, and many other essential crops.

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6/17/43

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN IN THE POULTRY BUSINESS

The raising of poultry has always been the woman's work. Except for an occasional heavy job in handling large amounts of feed etc., the work is relatively light. The large specialized poultry farms, of which there are many in the Delaware and Maryland area and on the West Coast, are in great need of year-round workers, a need which could be filled to a large extent by women.

There is a certain amount of resistance to the use of city women on poultry farms because of the general idea of the flightiness of city women, and in egg handling plants, where women have not been generally employed, because of the possibility that they might be quite uncomfortable among the rough-and-ready type of men in that industry.

Following are some of the jobs on poultry farms, all of which can be done by women:

feed and water chickens
clean poultry house
gather, candle, grade, crate eggs
keep egg records
look after incubator and brooders, care for baby chicks
kill and dress chickens for market
cull poor layers from the flock

The candling, grading and crating are often done by cooperative agencies in the towns or by dealers and egg handling concerns in large cities.

Hours are long on poultry farms, but usually not so long as on dairies and other farms. The work is mostly unskilled and is paid as such. The larger grading plants have regular hours, like industry, and the pay is higher than on the farms.

Women wishing to work on poultry farms should be in general good health. Some types of physical defects are not a hindrance to the work, although good eyesight is of course essential in candling.

Actual examples of women in the poultry business can be obtained from:

Professor H. E. Dougherty
Editor, Nulaid News
c/o Poultry Producers of Southern California
San Francisco, California

O. A. Hanke, Editor
Poultry Tribune
Mount Morris, Illinois

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6/3/43

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN IN MEAT PACKING PLANTS

Meat packing plants are in great need of women workers. There is a large variety of work in them, much of which has been traditionally done by women.

Working conditions, regulated by both management and workers, are excellent practically everywhere. The jobs vary widely, from separating the offal into edible and non-edible portions, to packaging sliced bacon, in luxuriously air-conditioned rooms. But the hours are regular and the pay is good, depending, of course, upon the type of work done.

Some of the jobs that women perform in meat packing plants are:

sorting meat for different end products--hamburger, canned meat, chile con carne
cutting up small pieces to fit into cans
slicing and packaging bacon and sausage
twisting frankfurters

Many of the jobs are very routine, and can be taken on by a beginner with practically no practice: trimming the lean from the fat, putting a spoonful of seasoning into the cans as they come by on the assembly line. There are also cooking jobs involved in the department making ready-to-serve products, such as chile con carne.

Then there are many jobs connected with the by-products of meat: soap, glue, plaster, lubricating and illuminating oil, buttons. Some meat packing plants take the by-products right through to such finished products as shoes and saddles. In the pharmaceutical department such important work goes on as preparing surgical ligatures from casings and preparing and packaging glandular extracts for medical purposes.

Most of the work is comparatively light and does not call for exceptional physical strength, but the worker must be able to pass the state health test required of people handling food for public consumption.

The main centers of the meat packing industry are: Chicago, the Mississippi River valley, the Ohio River section, New York City, the South East, especially southern Georgia; Texas, Denver and the Pacific Coast.

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6/7/43

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN IN FOOD PROCESSING PLANTS

Food processing plants (canning, freezing, drying, dehydrating and other processing) are facing an extreme shortage of labor this year. Besides those skilled workers already in the plants, 450,000 additional workers will be needed at the peak of the season, from August to October. Processing plants have always employed a large percentage of women, and this year there will be considerably more women than men in the industry.

About 57% of the plants, accounting for about 30% of the total pack, are in rural areas, close to the harvest. These plants draw their seasonal workers from the same sources as the farmers do--migratory workers, housewives and college youths; they are often actually the same workers, moving on from the harvesting to the processing. Since there are few migratory workers this year, because of transportation difficulties and the attraction of war industries, and since a great many of the housewives and college youths have now taken on full time work on the farms, replacing the men who have gone into the Army or the war plants, these rural processing plants are going to have to recruit women from the cities this year. Ten percent of the processing plants, accounting for 25% of the total pack, are in the big cities, near the source of labor, but they too have their labor troubles, competing for workers with the high paying war industries.

Most of the actual processing of the food is done by women. Employers prefer them to men, as women are more dextrous with their hands, and have had practice doing much of the same type of work at home in the kitchen. About 85% of the work is unskilled--washing, sorting and grading, crating the fruit and vegetables. Paring and peeling some crops take a great deal of labor--peeling tomatoes is the biggest job in connection with canning tomatoes (about 80% of the vine-ripened tomatoes of the country are canned).

Hours, wages and working conditions are regular, although in tomato canneries, for instance, the rush to get the crop canned before it spoils is so great that employers are willing to hire women on a part-time basis--for three or four hours a day, or whatever they can spare. Health tests are required in some states for people handling food.

White uniforms or aprons are worn by the women in most food processing plants.

The wage rate for the year-round processing workers, for whom there is also a demand, is somewhat higher than that of the seasonal workers. The processing of grains, meat, milk is a year-round business.

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMAN DAIRY WORKER

1. Jobs for which women are needed on dairy farms

Women are needed for whatever jobs they can do. The following are some of the processes on dairy farms which women have successfully mastered:

Run milking machines
Mix grain and feeds
Wash and care for milk utensils
Run the separator and cooler
Clean the milk house and barn
Churn and pack butter
Drive milk truck to market
Deliver retail milk
Milk cows by hand

2. Type of woman needed

For full time work, the woman should be young and strong and healthy. For the jobs involved in handling the milk, she would probably have to be able to pass the city health requirements, if the milk is to be sold in the city. No particular education is required, although some knowledge of dairy farming would of course make her more useful.

3. Training required

Some of the jobs, like cleaning the milk house, washing the utensils, driving the milk truck, can be taken on with practically no training; others, such as milking by hand and by machine, require a certain amount of practice and instruction. In the large dairies, where one worker could concentrate on a few simple jobs such as keeping the utensils clean, inexperienced women could be of more use than in small dairies, where the worker has to be able to perform all the functions, usually including milking by hand.

4. Hours, wages, working conditions

Dairy farm hours are of course regulated by the needs of the cow, rather than the time clock. Cows have to be milked and fed early in the morning and again in the late afternoon, every day without fail. Work eases up in the middle of the day, and it is probable that by doubling up every once in a while, time off can be arranged for each worker. Wages on dairy farms are slightly higher than the general farm wage rate.

5. White uniforms are usually required for workers handling milk destined for consumption as milk, rather than as butter or cheese, in a large city.

Otherwise there is no required uniform, and an outfit such as that of the Women's Land Army is the most practical.

6. Not traditionally a woman's job

Some of the jobs on a dairy farm are traditionally women's jobs, such as churning butter, and, to a lesser extent, milking the cows. But on the whole, the care of the cows has been the man's job.

7. Labor supply problems

The dairy industry is especially hard hit by the manpower shortage, because it needs labor all year round rather than just at the harvest season, because experienced labor is necessary, and because much of the work connected with dairying is heavy and hard. The large dairy farms of California, for instance, are very short of labor, yet in many of them where milking machines have not been installed the main job of milking a string of 30 cows apiece is too exhausting for any but the strongest women to undertake.

8. Extent of utilization of women

Farm women have already taken over the work of their absent husbands and hired men on dairy farms as well as on other farms, but inexperienced city women have been used less in dairies than in other less skilled phases of farming.

9. Resistance to employment of women

Resistance centers around the conviction that city women would not have the strength or the determination to stay on the job until the work is done every day and every week, and a natural reluctance to entrust the care of a valuable herd of cattle to inexperienced hands. Whereas a greenhorn on a truck farm might by negligence or poor handling cause the loss of a part of the current crop, the same person in a dairy farm might not only spoil the milk but might impair the health of the herd for future years.

10. Dairy farm work is too strenuous for older women to be of much use, but workers with certain physical defects, such as a club foot or poor hearing, could be used.

11. The utilization of city women to fill the labor needs of the dairy farms can best be promoted by careful selection on the part of the employment agency or the employer. It is of primary importance that the women sent to work on dairy farms be selected not only for good health and strength, but for conscientiousness, patience, cleanliness, and for a real desire to make good on the job. Only in this way can the farmers' resistance to the employment of women on their dairy farms be overcome. The use of women on the large dairies could also be promoted by an extended use of the milking machine (where possible) and by job breakdowns. Instead of continuing

the system at present in use on most large dairies of giving one worker complete charge of a string of 25-30 cows, some women might be hired to do the less strenuous parts of the work.

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6-3-43

ADVANCE RELEASE

ADVANCE RELEASE: FOR TUESDAY AFTERNOON PAPERS, FEBRUARY 16, 1943

Charles - Ag. 3367 - 4026

OFFICE OF WAR INFORMATION
DEPARTMENT OF AGRICULTURE

AG-19

A roll call of all rural women to pledge every family to produce as much of the home food supply as possible, will be held during March 1 to 20, the Department of Agriculture said today. The roll call will be launched under leadership of State and county home demonstration agents of the Extension Service. Neighborhood leaders, organized some time ago by the Extension Service, will visit every rural family and talk over the serious food situation, give home food supply suggestions and get them to sign enrollment cards in the Victory Home Food Supply program.

Maximum production of home food needs for the 30 million farm people and countless other families in suburban areas and small towns will release tremendous commercial stocks of food for other war needs as well as ease transportation and labor problems, M. L. Wilson, director of Extension work, pointed out.

Growing adequate home food needs also will greatly improve the diets and health of rural families for the long hours of hard work the war is requiring of them.

Goal of the Victory Home Food Supply program and roll call is for every rural family to produce about a ton a year of the right kinds of foods for every member of the family. Major stress will be put on fresh fruits and vegetables from the victory garden, canning 100 or more quarts of fruits and vegetables for each member of the family, and producing an ample supply of milk, chickens for eggs and meat, and other home-grown meats and food crops for family use.

6293 ##### 1606-43

Women Work Axes and Saws

Doing Men's Work and Willing to, Says Extension Forester

DURHAM, Feb. 1.—Women are taking to the forests and doing a man-size job just as they have in many phases of industry, says K. E. Barraclough, forester of the N. H. Extension Service.

New Hampshire women working in one sawmill are making lumber from trees salvaged from the 1938 hurricane. The women who were chosen for these sawmill jobs had various kinds of manual experience. For their greater protection special protective devices were installed in the mill.

Automatic saws and machines that do away with much of the lifting and hauling has made it possible for the women to do their work as thoroughly and effectively as ever the men operators did.

Mr. Barraclough says that this is not a precedent set by N. H. women, as English women have been working in the lumber industry of that country for quite some time now.

The English women at first were not allowed to fell trees, but gradually they proved that they were keen and steady and they are now sawing, chopping and felling all but the very biggest trees.

In New Hampshire, says the extension forester, there are many girls who helped get in the fuel supply for the winter this year and they proved equally as good as their brothers with the crosscut, the bucksaw and the axe.

Not many women will aspire to lumbering as a peace time vocation, thinks Mr. Barraclough, but he avers they are proving beyond a doubt that if Uncle Sam needs them in the woods to help win this war that they are ready and willing to try any kind of job that needs to be done.

UNION
MANCHESTER - N.H.
FEBRUARY 6-1943

MVR
gov copy

UNITED STATES DEPARTMENT OF AGRICULTURE
EXTENSION SERVICE
Washington, D. C.

SOME OF THE FARM JOBS WHICH CITY AND TOWN WOMEN MIGHT DO

In the home vegetable garden, inexperienced workers might soon learn to prepare soil, plant seed, and do necessary weeding and hoeing. They could learn to operate hand sprayers and to dust plants for insect control. When vegetables are ripe, the work of picking and packing the product, and sometimes grading for market, takes many hands.

On a farm specializing in commercial truck crops, a great deal of hand work can be mastered by a willing worker. Crops have to be planted and weeded. Vegetables must be harvested, washed, graded, and packed in boxes or other containers. All these jobs require many laborers.

On a poultry farm, the inexperienced worker can learn many routine chores, such as feeding and watering the birds, cleaning poultry houses, and gathering, candling, crating, and grading eggs. Egg records must be kept and the incubator and brooder looked after--jobs which require care and conscientious effort. Chickens for market must be killed, cleaned, and packed--jobs which can be done by women and girls.

A dairy farm has a great deal of routine work. Women have learned successfully to run milking machines and to mix grain and feeds. Someone to wash and care for milk utensils, to run the separator and cooler, and to clean the milk house and the barn is a big help to a dairy farmer whose hired man is in war industry or the armed services. Women have also proved to be good butter makers, and can drive a milk truck to market or deliver retail milk.

Feeding and watering livestock is a chore which could be taken over by a good woman worker on many farms. As sheep herders and as extra helpers at lambing time, women have proved their worth.

In the orchard and vineyard women can drive the spray truck, help in pruning trees, pick and grade fruit, pack it in boxes or barrels, and truck it to market.

In the fields women learn to be good at handling such machinery as harrows, disks, fertilizer spreaders, mowing machines, rakes, or hay loaders.

The home is sometimes the place where the most valuable service can be given, when an experienced farm woman can be released for work in the field. Volunteers for work in farm homes can do much for the war program by taking care of children, cooking meals for farm workers, cleaning the house, canning and drying surplus fruit and vegetables, making preserves, jellies, and pickles, doing the family washing and ironing, marketing in town for the farm family, doing necessary sewing, or keeping farm and home records.

288-43

ASSETS OF WOMEN WORKERS AS ANALYZED BY INDUSTRY AND APPLICATION TO AGRICULTURE *

Assets of Women Workers: From actual experience it is know that women have the following assets as workers:	Application to Agriculture
Dexterity and Speed: Women give excellent performance in work requiring manipulative speed and finger dexterity.	Grading, cleaning, packing, tying.
Accuracy: Women's services are satisfactory in the use of light instruments, in inspection and other work requiring care, constant alertness, and precision.	Recording, weighing and grading, candling eggs.
Patience: Women in general seem more content than men to put up with the monotony of repetitive operations.	Patience in repeating farm jobs such as weeding gardens, gathering eggs, milking, etc.
Interest: The fields that women are now entering are new to most of them. Consequently, interest can be a strong motivation for production.	Interest in living and growing things. Satisfaction in results. Application of science.
Curiosity: Because this work is new to women, they want to know the "why's." It is a good policy to give the reasons in teaching safety regulations and working procedures.	Scientific agriculture, plant and animal breeding, plant and animal disease work are intriguing.
Rivalry: There seems to be a natural rivalry among women workers. Guide this into good-natured competition for increased production.	Contests and awards can be used in gardening, poultry production, canning, and many other pursuits.
Patriotism: Patriotism more than the pay check is the reason some women are entering war work. Respect the sincerity of their motive and help them to make their work effective.	Many women are anxious to help by doing farm work to aid in feeding the United Nations.

* From Education for Victory, Vol. 1, No. 123, February 1, 1943

PHYSICAL LIMITATIONS OF WOMEN IN INDUSTRY AND THEIR APPLICATION TO AGRICULTURE *

Limitations:	Application to Agriculture
Limitations: Women can be trained for employment in much the same way as men. They should be expected to meet equally high standards of workmanship. Scientific study has revealed that women do have certain physical limitations which may necessitate modifications of working conditions. These are relatively few:	
Strength: Women have less lifting and pulling strength than men. Engineering departments can meet this by providing mechanical lifting devices.	Cannot lift heavy grain sacks of filled milk cans, pitch hay, or do other farm jobs that require unusual strength.
Susceptibility to Poisoning: Women are more susceptible to chemical poisoning and to certain types of dermatitis. Clean wiping cloths will minimize the chances of developing dermatitis from the oil of the machines. It is essential to provide adequate washing facilities.	Care should be taken when women aid in spraying fruit trees and vegetable gardens.
Liability to Fatigue: Women are more susceptible to fatigue from standing than are men. Every State but one has legislation regulating seating accommodations for women workers.	If rest periods are provided, women can work the same length of day as men.
Tendency to Excessive Absence: The general feeling that women are absent from work more often than men has not been proved. The absence of women is often due to causes other than personal, such as home duties. Good personnel policy can usually find those causes and offer solutions. Most women carry two jobs, but it is possible for them to develop "short cuts" in their domestic routine.	Standards for enrollment in the Women's Land Army should exclude the physically disabled, those having full-time home duties, and persons who do not have a sincere liking for farm life.

* From Education for Victory, Vol. 1, No. 123, February 1, 1943

U. S. Department of Labor
Women's Bureau
Washington

HOURS, WAGES, COMPENSATION INSURANCE

The Women's Bureau acts as a central authority on labor laws for women. It analyzes current State laws, and draws up standard bills for use by State forces. It also cooperates with States in helping them to work out better and more uniform legislation for the protection of women and minors.

Federal Fair Labor Standards Act.

It is seldom that either Federal or State legislation extends to the farm worker the protection which is offered to his city cousin. For example, the provisions of the Federal Fair Labor Standards Act with its wage and hour provisions as well as working standards for the protection and safety of the laborer cannot help the agricultural worker, nor ordinarily do the State labor laws include farm workers. This is significant from the safety standpoint, for long hours with the accompanying overfatigue is, of course, conducive not only to lower production, but to accidents. Furthermore, unless adequate wages are paid, workers often do not have the proper clothing and medical care.

A woman organizer of farm camps in California has this to say about wages: "The recruiting appeal based on patriotic motives was not a success. I found with ten hours in a boiling sun (sometimes 108 degrees or more) and living conditions a bit trying, that the patriotism will burst at the seams a bit unless the women are well paid. In those cases where the women were not well paid (stoop labor and piece work) the turnover was terrific and our women who had been moved by that patriotic motive would feel they had made their contribution after one or two days of it."

M.K.
Anderson
1/21/43

Nevertheless, there are some women who because of their eagerness to serve their country may be willing to work on farms during the war for little or no pay. Although their patriotic motives are to be commended, such a practice is unsound socially. It would be unfair to millions of men and women who must earn their living in peacetime as well as in wartime. Present wage levels are very difficult for many workers to live on. Should women offer to work for less it would serve to undercut the existing rates.

pp. 5, 6 Guides for Wartime Use of Women on Farms

Conditions that undermine the health of workers, cause accidents, excessive turn-over, or reduce morale tend to reduce production.

The Women's Bureau recommends that on farms just as in industry women should not be employed for longer than 8 hours a day, 48 hours a week, except in emergencies where additional work must be done to save the crop. One day of rest in 7 should be given all women farm workers. When emergencies require overtime, compensating time should be allowed later on to assure full recuperation from the extra strain.

Where women are housed on the place certain minimum standards should be observed. Recommended minimum standards should include clean and sanitary living quarters, screened if possible; adequate and sanitary toilet facilities; shelters that are proof against rain and free from unwholesome dampness; pure water for drinking and bathing, tested and certified as safe by public health authorities; clean and comfortable beds. A single bed for each worker wherever possible.

Compensation Insurance

p. 119 7 hour Child Labor Feb. /43

Statistics for 1941 show that no industry exceeded agriculture in the number of deaths (4500) due to work accidents. Yet farm workers are not usually covered by compensation insurance. Non-agricultural industries long ago became accustomed to workmen's compensation insurance. Workmen's

compensation laws in most States do not require that farm workers be covered. In most States farmers may voluntarily protect themselves and their employees by electing to come under these laws or by buying workmen's compensation policies. The minimum premium for compensation insurance is usually so high, however, that the owner of a farm of moderate size cannot afford it. Consequently, most farm workers are dependent on their own financial resources if they are injured while at work or in going to or from work.

Farm Accident and Insurance Problems of Young Workers

By Miriam Noll

Specialist in Accident Statistics, Industrial Division, Children's Bureau

WOMEN'S BUREAU
MAR 2 2 1943
DEPARTMENT OF LABOR

Reprint from

The Child—Monthly Bulletin

Volume 7, Number 8, February 1943

U. S. DEPARTMENT OF LABOR
CHILDREN'S BUREAU
WASHINGTON, D C.

Farm Accident and Insurance Problems of Young Workers

By Miriam Noll

Specialist in Accident Statistics, Industrial Division, Children's Bureau

For 1943 the food production goals set by the United States Government aim at the highest agricultural production ever known in our country's history. At the same time large numbers of experienced farm workers have gone to the armed forces, many others have been attracted into war industries by wages which are much larger than those paid for farm work, and Government restrictions affecting transportation have tended to immobilize the migratory workers who customarily help to harvest the crops. In the 1942 crop season many communities complained of farm labor shortages, partly because the usual number of farm workers was not available and partly because excellent weather conditions in the country as a whole had produced bumper crops to be harvested. In 1943 the growing demands for manpower in the armed services and in essential industries, together with the increased farm production goals, will undoubtedly accentuate farm labor shortages, even if the weather should be less favorable than it was last year.

For all these reasons the prospect is certain that many boys and girls of high-school age who have never worked on farms before will be recruited to help in the Nation's harvests and perhaps also to do seasonal work in cultivating the crops.[1] In general, agricultural workers are not usually included within the scope of labor legislation; therefore it is important that the safety and health of the inexperienced young people who are to work on the farms this season be safeguarded in all possible ways.

One of the less recognized problems of the employment of young inexperienced workers on farms is the accident hazard and the fact that farm workers are not usually covered by compensation insurance. Nonagricultural industries have long been accustomed to workmen's compensation insurance and are familiar with the principle that to prevent industrial accidents is a cheaper, as well as a more humane, policy than to pay for them in higher premium rates and in wasted manpower. Through the organized safety movement and safety work in their plants they have done much to reduce accident rates in industry. Before 1942, however, there was no similarly well-established Nation-wide movement for the prevention of work accidents on farms.[2] Yet statistics for 1941 show that no industry exceeded agriculture in the number of deaths (4,500) due to work accidents.[3] They also show that the frequency of fatal injuries in farm work is above the average for all industries, and well above the frequency of fatal work injuries in manufacturing industries.[4] Both adults and children who are accustomed to living and working on farms and presumably are familiar with farm-accident hazards nevertheless suffer many serious injuries.

Because of war conditions and the consequent employment of inexperienced farm workers, many observers expect injuries in agriculture to increase both in frequency and in severity. Some of the reasons given for this belief are as follows:

(a) Experienced workers are leaving the farms for the armed forces or for war industries, and inexperienced persons, including young people and children, are taking their places on the farm. One authority says that the danger of accidents to these youthful and inexperienced workers, as a result of their doing heavier farm work, using and repairing machines, and handling animals, "may actually be considerably greater than for those who are working in munitions plants or training in the Army." [5]

(b) The experienced workers withdrawn from the farms will be those with the greatest physical ability, leaving on the farm those who are physically less able to carry on the heavy and dangerous portions of farm work.

[1] In accordance with standards agreed on by the Children's Bureau, the Office of Education, the Department of Agriculture, and the U. S. Employment Service in March 1942, all plans for recruiting young workers for agricultural employment should provide that youth 16 years of age or more should be engaged before children 14 and 15 years are called on. The minimum age at which children should be recruited for work off the home farm is 14 years. (See Policies on Recruitment of Young Workers for Wartime Agriculture, reprinted from *The Child*, March 1942.)

[2] The National Safety Council sponsored the First National Home and Farm Safety Conference, which met in Chicago in February 1942 and has also established a special Division of Home and Farm Safety.

[3] *Monthly Labor Review*, vol. 55, No. 3 (September 1942), p. 505. *See also* Accident Facts, National Safety Council, 1942 edition, p. 56.

[4] Accident Facts, pp. 56–57.

[5] From speech by T. Roy Reid, Director of Personnel, U. S. Department of Agriculture, at First National Home and Farm Safety Conference, Chicago, February 17, 1942. See Transactions of this Conference, p. 15, published by the National Safety Council, Inc.

(c) Machinery and tractors already form a major cause of accidental deaths among farm workers, but the shortage of new machines and of skilled repairmen will create an even greater machine hazard. Moreover, much machinery now in use on farms is without adequate guards, is worn out, or is obsolete, and is therefore especially dangerous.

(d) Attempts by the less experienced farm workers to repair machinery will result in more injuries. In one study of farm accidents made by an insurance company on the Pacific coast, it was found that injuries occurring in repair work resulted in an unduly high proportion of infections.[6]

The seriousness of accidents in farm work is enhanced by the fact that prompt medical aid is usually not available. This is not only because the doctor ordinarily lives miles from the scene of the accident but also because the farm family frequently hesitates to send for him on account of the expense involved.[7] Government restrictions on use of motor vehicles add to the problem. Well-meant efforts of laymen to render first aid may aggravate the injury. Infections resulting from injuries thought to be unimportant may cause permanent disability of greater or lesser degree.

The chief causes of serious injuries in farm work, according to material compiled by the Children's Bureau from many sources,[8] are the following: Tractors and other farm machinery, whether power-driven or animal-drawn; livestock; falls from ladders, trees, or haymows; vehicles, strains, sprains, hernias, and back injuries caused by improper and awkward methods of lifting heavy objects, as in loading or unloading operations; improper use of farm tools, such as pitchforks, axes, scythes, knives, and scissors; careless use of gasoline and kerosene resulting in explosions and fires; climatic or weather conditions, such as exposure to lightning and excessive exposure to sun, causing heatstrokes and sunstrokes; infections caused by neglect of minor injuries. Many others could be listed.

It is possible that most of the inexperienced young workers recruited for seasonal farm employment will be used in work that is less hazardous than that involved in handling tractors, farm machinery, and animals, which cause the largest numbers of bad accidents. But even the less dangerous forms of farm work frequently result in serious, painful, and expensive injuries. In fruit orchards and groves falls from ladders or trees cause fractures, sprains, and other severe injuries. Haying activities often result in surprisingly serious accidents. In harvesting small fruits, berries, and vegetables young workers often suffer serious strains from lifting or carrying crates, boxes, or lugs that are too heavy for them. Cuts, punctures, abrasions or blisters may result in infection, which is a serious problem in the country, far from doctors, if no provision has been made for proper administration of first aid. The motor-vehicle hazard is always present, since seasonal workers usually must be transported daily to and from their work. Excessive exposure to heat and sun affects inexperienced workers far more readily than those who know how to dress and work under such conditions.

The new groups of young workers who will be asked to help in farm work are inexperienced and are not acquainted with farm-accident hazards. Therefore it is necessary that the communities recruiting them for farm labor provide them with all possible protection for their safety. This protection calls for careful selection of workers and physical examination if possible, so that no young worker is placed on work that is too heavy or fatiguing. It calls for proper placement, so that immature workers are not given dangerous tasks. It should usually embrace preemployment training by competent instructors, in which safe practices are demonstrated and emphasized, and in which the young worker is shown his responsibility for conserving manpower—and crops—by avoiding horseplay and accidents which might injure him or his coworkers, or damage the crops or equipment on which he is working. It will be promoted by careful supervision on the job by farm foremen or especially trained supervisors or group leaders who understand safe practices and will see that each young worker performs his task in a safe manner. It calls for the provision of first-aid equipment at the work place and in camps where emergency farm workers may be housed, as well as for the training of work and camp supervisors and, if possible, the workers themselves in first-aid courses. It requires provision of safe means of transportation and a properly qualified driver for the vehicle, avoidance of overcrowding, and safe behavior of the young workers who are being transported. Above all, it relies on the kind and sympathetic understanding of farm employers that these inexperienced young people from cities and towns are not hardened to farm work or farm life; that they have to be shown exactly what to do and how to do it; that they are much more likely to incur accidents and injury to

[6] Accidents in Agriculture, p. 9. Prepared by Engineering and Safety Division, Fireman's Fund Indemnity Co. San Francisco, 1938. Processed.

[7] In rural areas it is customary for the doctor to charge a set rate per mile in addition to his fee. This rate may be as high as 75 cents or a dollar per mile.

[8] A mimeographed report on accident hazards to young workers in wartime agriculture is available from the Children's Bureau.

health than boys and girls who are inured to farm life; and that careful instruction, good supervision, and good working conditions will reduce time lost on account of fatigue or injury as well as minimize the labor turn-over which was a problem in some of last year's emergency farm-work projects.

Meeting the cost of accidental injuries is a persistent problem. Workmen's compensation laws in most States do not require that farm workers be covered. However, in most States farmers may voluntarily protect themselves and their employees from part of the financial hazards of accidents by electing to come under these laws or merely by buying workmen's compensation policies. In some States the compensation statistics indicate that many farm workers are covered by such policies, if one can judge from the number of occupational injuries in agriculture reported to State compensation commissions. However, the minimum premium for compensation insurance is usually so high that the owner of a farm of moderate size cannot well afford it. The result is that most farm workers are left to their own financial resources if they suffer injury at work or while being transported to or from work. This lack of financial protection in case of injury serves to emphasize further the importance of taking measures to prevent accidents.

Recognizing the need for measures to prevent accidental injuries to young workers in agriculture, the Conference on Supervision and Employment Conditions for Young Workers in Wartime Agriculture called by the Children's Bureau in June 1942 made recommendations on the prevention of accidents in its report.[9] It also urged that the employer assume responsibility for payment of medical expenses in case of injury, and that, if practicable, the workers be covered by workmen's compensation insurance, or, failing that, by some other form of insurance. It further suggested that the Children's Bureau, through its committees, give more intensive consideration to the problem and to measures needed to achieve the desired results.

It would be wise for organized projects for emergency farm work to endeavor to record the accident experience of their workers as far as is practicable. An analysis of the causes of each accident will show what action needs to be taken to prevent similar accidents in the future. If accident-insurance coverage has been made available in any form, the keeping of records will enable the leaders of the project to protect the insurance rights of injured workers. If the project plans to evaluate its work in written form, a special section on the season's experience with safety education, accidents, and accident insurance might well be included in order to point the way toward strengthening similar programs in future years.

Groups sponsoring emergency farm-work programs for young workers should bear in mind that bad accidents may discredit the project in the eyes of the young people and their parents and may make future recruiting less successful. If injuries occur and if no means of meeting the necessary expenses have been provided, it is unlikely that the injured worker will return to work. Preventable accidents, lost time, and consequent labor turn-over are a waste of manpower as well as an offense against the young, inexperienced boy or girl who is injured. For these reasons every community in which recruitment of young workers is contemplated should marshal all its resources to meet the problems involved.

[9] Safeguarding Young Workers in Wartime Agriculture. Reprinted from *The Child*, August 1942.

U. S. GOVERNMENT PRINTING OFFICE: 1943

National, State, and Local

FARM LABOR STORIES

published
in the
Extension Service *Review*
in 1943

EXTENSION SERVICE
WAR FOOD ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

INDEX

Alabama — Harvesting Alabama potatoes - 31
American Women's Voluntary Services — Husking bee, 1943 version (Va.) - 23
Apples — Farm Workers pro tem (R. I.) - - - - - - - - - - - - - - - - - - - 18
Apples — Labor groups come to aid of Kenosha farms (Wis.) - - - - - - - - 36
Apples — No food goes to waste (Pa.) - - - - - - - - - - - - - - - - - - - 43
Arkansas — Arkansas moves the crops to market - - - - - - - - - - - - - - 42
Arkansas — Teamwork saves vital war food crop in Maine - - - - - - - - - 48
Asparagus — Boy Scouts cut Delaware asparagus - - - - - - - - - - - - - - 25
Asparagus — Farm Labor gaps being closed in areas of Illinois - - - - - - 31

Bahama Islanders, recruitment of - 19
Beans — 4-H Club members save beans (R. I.) - - - - - - - - - - - - - - - - 47
Beans — One among many good examples of effective cooperation (Wash.) - 47
Beans — Picking a million bushels of beans (N. C.) - - - - - - - - - - - - 44
Beans — Snap beans from Maine to Louisiana - - - - - - - - - - - - - - - - 18
Berries — Organizing for the harvest in Smith County, Tex. - - - - - - - - 41
Boy Scouts — Boy Scouts cut Delaware asparagus - - - - - - - - - - - - - - 25
Boy Scouts — Looking toward the crucial labor period - - - - - - - - - - - 32
Boy Scouts — Scouts save crop for Uncle Sam (Maine) - - - - - - - - - - - 18
Boy Scouts — 300 Scouts ready for work (Wis.) - - - - - - - - - - - - - - 29
Boys — Green help as the farmer sees it (N.J. and Nebr.) - - - - - - - - - 34
Britain — City workers on English farms - - - - - - - - - - - - - - - - - - 21
Britain — Manpower and foodpower in Britain - - - - - - - - - - - - - - - - 11
Brogger, Harold — Planning saves labor on fruit farms (Wash.) - - - - - - 26

Camps — Looking toward the crucial labor period - - - - - - - - - - - - - 32
Canada — Teamwork saves vital war food crop in Maine - - - - - - - - - - - 48
Certificate — Crop Corps gives certificate of service - - - - - - - - - - - 20
Children — Day nurseries for children of harvest workers (Calif.) - - - 27
City workers — Michigan flying farm squadron - - - - - - - - - - - - - - - 31
Coffee — Hawaiian students pick coffee - - - - - - - - - - - - - - - - - - - 6
Corn — Husking bee, 1943 version (Va.) - - - - - - - - - - - - - - - - - - 23
Corn — Husking bees revived (W. Va.) - - - - - - - - - - - - - - - - - - - 16
Cotton — Cotton-picking days (Ga.) - 5

Dairying — Need patience and understanding (N. J.) - - - - - - - - - - - - 34
De Lashmutt, Floyd S. — Training underemployed farmers for work on Ohio dairy farms - 8
Delaware — Boy Scouts cut Delaware asparagus - - - - - - - - - - - - - - - 25

Employment Service — Evolving a plan (Kans.) - - - - - - - - - - - - - - - 15

Fausch, Cecil — Finding farm help (Minn.) - - - - - - - - - - - - - - - - - 27
Flood, Francis — The challenge of the 99 percent - - - - - - - - - - - - - 20
Flood, Francis — Manpower and foodpower in Britain - - - - - - - - - - - - 11
4-H Clubs — 4-H Club members save beans (R. I.) - - - - - - - - - - - - - 47
4-H Clubs — 4-H extra labor in Wisconsin - - - - - - - - - - - - - - - - - - 6
Freezing plants — Strawberries and peas harvested in Tennessee - - - - - - 32
Fruit — Planning saves labor on fruit farms (Wash.) - - - - - - - - - - - - 26

Georgia — Cotton-picking days - 5
Georgia — Shaking peanuts for a holiday - - - - - - - - - - - - - - - - - - 46
Grigs, Mary — City workers on English farms - - - - - - - - - - - - - - - - 21

Hawaii — Hawaiian students pick coffee - - - - - - - - - - - - - - - - - - - 6
Hay — Saving a bumper crop - 43
Hay — The widow's hay crop (Utah) - 30
Housework — Kansas needs women to help in farm homes - - - - - - - - - - - 36
Husking — Husking bees revived (W. Va.) - - - - - - - - - - - - - - - - - - 16

Illinois — Farm labor gaps being closed in areas of Illinois - - - - - - - 31
Illinois — Illinois community meetings - - - - - - - - - - - - - - - - - - - 31
Indiana — Neighbors agree on machinery use - - - - - - - - - - - - - - - - - 15
Interstate — Southern workers help harvest spring wheat in Midwest - - - - 44
Interstate — Teamwork saves vital war food crop in Maine - - - - - - - - - 48
Iowa — Haying in a hurry - 37

Jamaicans — Teamwork saves vital war food crop in Maine - - - - - - - - - - 48

Kansas — Evolving a plan - 15
Kansas — Kansas needs women to help in farm homes - - - - - - - - - - - - - 36
Kentucky — Farm labor problems - 47
Kentucky — Teamwork saves vital war food crop in Maine - - - - - - - - - - 48
Kentucky — Twenty-two farmers eager for training - - - - - - - - - - - - - 17

Louisiana — Snap beans from Maine to Louisiana - - - - - - - - - - - - - - - 18

Machinery — Neighbors agree on machinery use (Ind.) - - - - - - - - - - - - 15
Machinery — Pooled - 24
Machinery — Rates for machinery use (Ky.) - - - - - - - - - - - - - - - - - 41
Maine — Snap beans from Maine to Louisiana - - - - - - - - - - - - - - - - - 18
Maine — Teamwork saves vital war food crop in Maine - - - - - - - - - - - - 48
Maine — Women prove their mettle - 45
Maryland — City high school boys work on Maryland farms - - - - - - - - - - 2
Massachusetts — The crop was harvested - - - - - - - - - - - - - - - - - - - 40
Michigan — Michigan flying farm squadron - - - - - - - - - - - - - - - - - - 31
Minnesota — Minnesota farmers will have opportunity to get some of the ideas in training inexperienced workers - - - - - - - - - - - - - - - - - - 19
Minnesota — Finding farm help - 27
Minnesota — Utilizing every labor resource - - - - - - - - - - - - - - - - - 9
Mississippi — Labor resources materialize in Mississippi counties - - - - - 23
Missouri — A brisk recruiting pace is set by Missouri agents for strawberry pickers - 35
Missouri — Business closes at 4 o'clock - - - - - - - - - - - - - - - - - - - 41
Missouri — None too young to help in Missouri - - - - - - - - - - - - - - - - 4
Missouri — Production must go forward - 24
Montana — All resources utilized - 5
Montana — Harvesting sugar beets - 8

Nebraska — Calling all youth labor - 13
Nebraska — How our boy worked out - 34
Nebraska -- Leaders share the work - 33
Needs — Reviewing the facts on farm manpower - - - - - - - - - - - - - - - 1
Neighborhood leaders -- Neighborhood leaders serve labor cause - - - - - - 15
Neighborhood leaders — Leaders share the work (Nebr.) - - - - - - - - - - 33
Neighborhood leaders -- Production must go forward - - - - - - - - - - - - 24
New Jersey — Need patience and understanding - - - - - - - - - - - - - - - 34
New Jersey — "Sure, we'll use Peddie boys again" - - - - - - - - - - - - - 38
New York — Albion, N. Y., high school students to work on farms - - - - - 36
New York -- Children help - 5
North Carolina -- Picking a million bushels of beans - - - - - - - - - - - 44
North Dakota -- On the labor front - 5

Ohio — Training underemployed farmers for work on Ohio dairy farms - - - 8
Ohio — Utilizing every labor resource - - - - - - - - - - - - - - - - - - 9
Oklahoma -- Teamwork saves vital war food crop in Maine - - - - - - - - - 48
Oregon — Increasing labor efficiency - - - - - - - - - - - - - - - - - - - 10
Oregon — Oregon boys and girls harvest for victory - - - - - - - - - - - - 51
Oregon — Oregon has labor radio programs - - - - - - - - - - - - - - - - - 32
Oregon -- 1943 labor plans - 5
Oregon — Oregon organized for action - - - - - - - - - - - - - - - - - - - 30
Organization — The Challenge of the 99 percent - - - - - - - - - - - - - - 20
Organization — The crop was harvested (Mass.) - - - - - - - - - - - - - - - 40
Organization — Full steam ahead on farm-labor program - - - - - - - - - - 14
Organization — Mobilizing 3,500,000 farm workers - - - - - - - - - - - - - 7
Organization — Oregon organized for action - - - - - - - - - - - - - - - - 30
Organization — Organizing for the harvest in Smith County, Tex. - - - - - 41
Organization -- Utilizing every labor resource - - - - - - - - - - - - - - 9

Peaches — No food goes to waste (Pa.) - - - - - - - - - - - - - - - - - - - 43
Peanuts -- Getting peanuts to market (Tex.) - - - - - - - - - - - - - - - - 15
Peanuts — Shaking peanuts for a holiday (Ga.) - - - - - - - - - - - - - - - 46
Peas — Strawberries and peas harvested in Tennessee - - - - - - - - - - - - 32
Peas — Working instead of waiting (Utah) - - - - - - - - - - - - - - - - - 39
Peddie boys — "Sure, we'll use Peddie boys again" (N.J.) - - - - - - - - - 38
Pennsylvania — No food goes to waste - - - - - - - - - - - - - - - - - - - 43
Potatoes -- Harvesting Alabama potatoes - - - - - - - - - - - - - - - - - - 31
Potatoes — Potato interests pay tribute (Maine) - - - - - - - - - - - - - - 50
Potatoes — "Sure, we'll use Peddie boys again" (N.J.) - - - - - - - - - - - 38
Potatoes — Teamwork saves vital war food crop in Maine - - - - - - - - - - 48
Potatoes -- Women prove their mettle (Maine) - - - - - - - - - - - - - - - 45

Radio programs -- Oregon has labor radio programs - - - - - - - - - - - - - 32
Resources — Labor resources materialize in Mississippi counties - - - - - 23
Rhode Island — Farm workers pro tem - 18
Rhode Island -- 4-H Club members save beans - - - - - - - - - - - - - - - - 47

Selective service — A four-point program - 16
Sharing work — Leaders share the work (Nebr.) - - - - - - - - - - - - - - - - 33
Short course — Training new hired men (Ky.) - - - - - - - - - - - - - - - - - 17
South Dakota — A close-up of the labor situation in northeastern South Dakota - 28
South Dakota — College students released - - - - - - - - - - - - - - - - - - 5
South Dakota — Tips for teaching new farm workers - - - - - - - - - - - - - 22
Strawberries — A brisk recruiting pace is set by Missouri agents for strawberry pickers - 35
Strawberries — The crop was harvested (Mass.) - - - - - - - - - - - - - - - - 40
Strawberries — Strawberries and peas harvested in Tennessee - - - - - - - - 32
Sugar beets — Getting in Wyoming sugar beets - - - - - - - - - - - - - - - - 5
Sugar beets — Harvesting sugar beets (Mont.) - - - - - - - - - - - - - - - - 8

Taeuber, Conrad — Reviewing the facts on farm manpower - - - - - - - - - - - 1
Texas — Texas farmers get help from the people of Dallas - - - - - - - - - - 36
Texas — Getting peanuts to market - 15
Texas — Organizing for the harvest in Smith County - - - - - - - - - - - - - 41
Thompson, Tyrus — Tips for teaching new farm workers (S.Dak.) - - - - - - - 22
Tomatoes — Farm labor gaps being closed in areas of Illinois - - - - - - - - 31
Tomatoes — No food goes to waste (Pa.) - - - - - - - - - - - - - - - - - - - 43
Training — Green help as the farmer sees it - - - - - - - - - - - - - - - - - 34
Training — Minnesota farmers - 19
Training — Oregon boys and girls harvest for victory - - - - - - - - - - - - 51
Training — Tips for teaching new farm workers (S. Dak.) - - - - - - - - - - 22
Training — Training new hired men - 17
Training — Training underemployed farmers for work on Ohio dairy farms - - 8
Training — WLA training course (N. Y.) - - - - - - - - - - - - - - - - - - - 37
Town people — Business closes at 4 o'clock (Mo.) - - - - - - - - - - - - - - 41
Town people — Farm-labor club (W. Va.) - - - - - - - - - - - - - - - - - - - 47
Town people — Organizing for the harvest in Smith County, Tex. - - - - - - - 41
Town people — Shaking peanuts for a holiday (Ga.) - - - - - - - - - - - - - 46
Town people — The widow's hay crop (Utah) - - - - - - - - - - - - - - - - - 50

Utah — A threshing ring - 16
Utah — The widow's hay crop - 50
Utah — Working instead of waiting - 39
Utilization — Increasing labor efficiency (Oreg.) - - - - - - - - - - - - - - 10
Utilization — Labor recruitment (Wyo.) - - - - - - - - - - - - - - - - - - - 22
Utilization — Utilizing every labor resource - - - - - - - - - - - - - - - - 9

Vegetables — Women prove their mettle (Maine) - - - - - - - - - - - - - - - - 45
Vermont — Vermont's volunteer land corps - - - - - - - - - - - - - - - - - - 2
Victory Farm Volunteers — Children help (N. Y.) - - - - - - - - - - - - - - - 5
Victory Farm Volunteers — Oregon boys and girls harvest for victory - - - - 51
Victory Farm Volunteers — "Sure, we'll use Peddie boys again" (N. J.) - - - 38
Virginia — Husking bee, 1943 version - 23

War Boards — Selective Service - 16
Washington -- One among many good examples of effective cooperation - - - 47
Washington -- Planning saves labor on fruit farms - - - - - - - - - - - - - 26
Weeding — Women prove their mettle (Maine) - - - - - - - - - - - - - - - - 45
West Virginia — Farm-labor club - 47
West Virginia -- Husking bees revived - - - - - - - - - - - - - - - - - - - 16
West Virginia — Teamwork saves vital war food crop in Maine - - - - - - - 48
Wheat — Southern workers help harvest spring wheat in Midwest - - - - - - 44
Wisconsin — 4-H extra labor in Wisconsin - - - - - - - - - - - - - - - - - 6
Wisconsin -- 400 trained by planting time - - - - - - - - - - - - - - - - - 17
Wisconsin — Labor groups come to aid of Kenosha farms - - - - - - - - - - 36
Wisconsin — Saving a bumper hay crop - - - - - - - - - - - - - - - - - - - 43
Wisconsin — 300 Scouts ready for work - - - - - - - - - - - - - - - - - - - 29
Women's Land Army - 21
Women's Land Army -- Husking bee, 1943 version (Va.) - - - - - - - - - - - 23
Women's Land Army — Looking toward the crucial labor period - - - - - - - 32
Women's Land Army — Women prove their mettle (Maine) - - - - - - - - - - 45
Women's Land Army — A Women's Land Army tour - - - - - - - - - - - - - - - 37
Wyoming -- Getting in Wyoming sugar beets - - - - - - - - - - - - - - - - - 5
Wyoming -- Labor recruitment - 22

Youth — Albion, N. Y., high school students to work on farms - - - - - - - 36
Youth — Calling all youth labor (Nebr.) - - - - - - - - - - - - - - - - - - 13
Youth -- Children help (N. Y. and N. J.) - - - - - - - - - - - - - - - - - - 5
Youth — City high school boys work on Maryland farms - - - - - - - - - - - 2
Youth — College students released (S. Dak.) - - - - - - - - - - - - - - - - 5
Youth — 4-H extra labor in Wisconsin - - - - - - - - - - - - - - - - - - - 6
Youth — None too young to help in Missouri - - - - - - - - - - - - - - - - 4
Youth — Production must go forward - 24

Reviewing the facts on farm manpower

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"The lion's share of the planning and action will have to be done at the community level by local groups of farmers, making the most of all available manpower resources in their own communities," decides Dr. Taeuber after surveying the labor situation in relation to the increased production goals.

■ Increasing production without any increase in the number of workers is the task which confronted American agriculture during the crop season just drawing to a close. Although production this year is approximately 13 percent greater than last year, the number of workers on farms at the peak of the season this year was approximately the same as a year ago. The mere statement that there were approximately 12 million workers on farms at the beginning of October 1941 and the same number at the beginning of October 1942, or that the same is true for the first of July in both years, is to tell only a part of the story. During the year there were many losses and these losses were especially heavy in the most vigorous groups of the farm working force, men between the ages of 18 and 45. These losses have been offset in the main by the greater use of older men, women, high school age boys and girls, and some younger children. In part they have been offset by longer work days and by more nearly full-time employment of those persons who normally are employed part time.

A recent survey made by the Department of Agriculture found that, between September 1941 and September 1942, agriculture had experienced a gross loss of about 1.6 million of its regular workers—members of farmers' families and regular hired workers. Nonfarm employment claimed the majority of these persons; 921,000 of them took on a nonfarm job, although 224,000 of these continued to live on a farm. The armed forces were reported to have drawn about 700,000 of these persons, but this figure may include some persons who went into the armed forces during a longer period than the 12-months specified. It does include persons who left farms to take nonfarm jobs and subsequently joined the armed forces; persons who would have been lost to the farm labor force, even if they had not become members of the armed forces. For the men 18-45 years old, there was a net loss of half a million, but the other groups working on farms increased by almost as many.

During the past crop year there were reports of labor shortages from many parts of the country. Increases in production, the attempt to grow crops on land that would not normally have been planted to such crops, the cultivation of some crops or varieties of crops by growers who had little experience in their production, the favorable weather, shortages of machinery in some areas, lack of processing and transportation facilities; all contributed to the tight labor situation.

In addition, many farmers, like other employers, found that the reservoir of available workers on which they had come to count during the depression years, was no longer available. It was necessary to use persons who ordinarily would not have been used.

Furthermore, the fact that many of the more efficient workers were lost to agriculture meant that it was necessary to work more hours per day and per week, that short-cut methods were developed, that some maintenance operations and some nonessential operations were eliminated, harvesting seasons were lengthened, and many other means were used to meet the critical situation.

The Federal Government developed a program for the transportation of seasonal workers to some critical spots, and for the importation of some Mexican workers, especially for the harvesting of the long staple cotton and sugar beets. However important the efforts of the Federal Government were in some of the areas which cannot meet their labor needs from local sources, the major adjustments were those which were worked out at the local level, based on the resources of the individual farm and the local community.

Members of farm families—men, women, boys, and girls—have had to take the place of hired workers, and also of sons who found employment elsewhere or were taken into the armed forces. Even at the peak of 1942 employment, in October, the figures show that about three-fourths of all workers were farm operators or members of their families.

Many communities found themselves with only a part of the labor force which they considered as necessary for their operations, and found that in their midst there were sufficient other workers to meet the emergency. But the successful recruitment of high school boys and girls for some operations, or the effective use of businessmen, women, factory workers, or other groups of volunteers did not just happen. Where such ventures were successful, they were the result of careful planning and organization, marshaling the local leadership and working out arrangements so that when the volunteers turned up there was really work enough to keep them busy, that the wages were commensurate with the requirements, that there was adequate housing or transportation, and that unskilled workers were taught the necessary skills. Moreover, training and supervision of the workers, where they could work in groups, was an important element.

For the large majority of farmers in most of the farming sections in the country, much of the answer to the labor problem must be sought at home, through the fullest possible utilization of the labor and machinery in their own communities and the immediately adjoining areas. As more and more labor is drawn off into war industries and the armed forces, it will become more and more difficult to attract workers from a distance into an area which can provide only a very short period of employment, for a small number of workers.

Using the Underemployed

A complete inventory of the manpower now engaged in agriculture or available for agriculture would reveal a highly varied picture. In the more productive areas there are many farmers who need additional help, because the competition with industrial employment and the armed forces has reduced the available supply of skilled workers. But in the less productive parts of the country, despite heavy outmigration in recent years, there are still many farm workers who are underemployed, farm families who do not have the land or the capital resources to make the contributions to production of which they are capable. And in many of the more productive counties there are such families, even at the present time.

Labor shortages and a large volume of underemployment in agriculture are both true in agriculture today. And in many areas the two groups of farm families live side by side. Wisconsin has found a way of helping families in the cut-over areas to give up their farming on submarginal lands and make their efforts count for more in the more productive dairy areas. Many farm families who have been struggling along on inadequate units are ready to go to places where their labor can be more productively used, even as farm laborers. And some who will stay in the poorer areas could, with some assistance, increase their output right where they are.

If we are going to get the production which will be needed, we shall need to use effectively all the manpower now in agriculture. That will require careful planning and effective and rapid action. The lion's share of the planning and action will have to be done at the community level by local groups of farmers, making the most of all available manpower resources in their own communities and when all of those are effectively at work, calling on the appropriate public agencies for help in getting the additional workers who may be needed.

Where is the help coming from?

New goals call for greater production. Many farmers ask, "Where is the help coming from?" Secretary Wickard says "Without question the most difficult problem for next year is having enough people to carry on the necessary production." With these war needs in mind, some experiences of the past season in mobilizing city youth for work on farms in Vermont and Maryland are reviewed here.

Vermont's volunteer land corps

■ Well-known and well-organized effort to relieve the labor shortage by mobilizing youth in the city was called the Volunteer Land Corps, initiated by Dorothy Thompson, columnist. The Land Corps recruited 626 boys and girls from city high schools and placed them on farms in Vermont and New Hampshire. They lived and worked on individual farms—for the most part, on general dairy farms. Eighty percent of them worked throughout the season of 2 or 3 months. A few have remained to work all year.

Most recruits came from New York, where a land-corps meeting was held in one school in each borough. Notwithstanding all manners of probable hardships described, the response to join the corps was so great that a limit of 12 was fixed as the maximum number which would be accepted from any one school. Boys had to be at least 16 years of age, girls at least 18, with a signed statement from their physician as to their capability of performing hard physical labor. Each candidate also had to have the consent of parents or guardians.

An effort was made through interviews and letters of reference to choose reliable, conscientious young people with stamina and emotional stability who could best adapt themselves to new conditions of living.

The Land Corps worked closely with the United States Employment Service, the Extension Service, and farm organizations in placing young people and helping them to adjust to their new environments.

These young people received $21 a month and board and room. Some who did exceptionally well were paid wage increases; however, the whole effort was not put on a financial basis but, rather, was an appeal to idealism.

On completion of the summer's work, the whole project was reported and a careful study made of methods and results. Experience during the summer showed that better methods of selection would have been helpful. A city 4–H Club could do much to weed out the temperamentally unsuitable and give some pretraining to the remainder.

Success is measured in part by the satisfaction of farmers employing land-corps recruits. They report that the effort to teach young folks was worth the trouble and that the young folks did help in farm production. Most of them indicated their willingness to employ another volunteer next summer.

Wishing to expand the work of the Volunteer Land Corps, Miss Thompson presented the report of the season's work to Secretary Wickard, Director Wilson, and the extension staff in Washington and, later, to the directors of extension attending the Land-Grant College Association meeting in Chicago. A Department committee was appointed to study the situation under the chairmanship of Director Wilson, including O. E. Mulliken, OAWR; James S. Heizer, FSA; J. W. Coddington, ACAA; and P. A. Thompson of the Forest Service. The Association of Land-Grant Colleges endorsed the movement after careful consideration, and Director I. O. Schaub, of North Carolina, and Director L. A. Bevan, of New Jersey, were appointed to formulate plans for organization on a national basis.

Miss Thompson has felt that the Extension Service should take over the Land Corps. In her syndicated column she said: "There is an already established agency of Government with long and deep experience which could take over this problem and solve it in a great, constructive way. To my mind, and after intimate experience with the problem last summer, there is only one such Federal agency. That is the Extension Service of the Agriculture Department."

The plan suggested by the committee of directors called for county agents or farmers appearing before school groups to tell about the situation on farms, and for the county agents to assist in pretraining the young folk in such ways as tours to farms during the winter months, and interpreting through pamphlets the conditions under which the recruits would work. These pamphlets could be distributed to the young folk. The Extension Service could set up county farm committees which would cooperate in selecting the actual farms where young people would be placed, and share in the supervision, making frequent personal visits to the Land Corps workers and in helping them to find a place in the local community life, introducing them to 4-H Clubs, youth organizations, and local farm organizations.

The report on the Volunteer Land Corps for the summer of 1942 lists these indispensable essentials to the program: Adequate supervision by a qualified and competent staff; community group activities that stimulate an esprit de corps both for the group and for work in the national service, and healthy recreation.

City high school boys work on Maryland farms

■ Two plans for training and utilizing city high school boys for labor on farms were tried in Maryland during the past season.

The first plan dealt with boys from high schools in Baltimore City. In carrying through the project there was close cooperation between the Extension Service, the State farm organizations, the school officials in Baltimore, and the McDonogh School, a private institution situated 15 miles from Baltimore.

It was recognized in the beginning that three distinct steps were involved—enrolling the boys, training them, and placing them on farms.

All high schools in Baltimore were visited and the proposition explained to the boys, and they were offered an opportunity to enroll.

The plan provided that, beginning on April 4, the boys would be transported by bus to the McDonogh School each Saturday, from the end of the streetcar lines, until the close of the high-school year in June, that they would be given training without cost, and a job on a farm at the end of the period.

The McDonogh School afforded ideal facilities and personnel for the training. On its 800-acre farm were herds and flocks, machinery and equipment, and the kinds of crops found on the majority of farms. The headmaster of the school and his staff were thoroughly experienced in training and dealing with boys.

A few more than 400 boys started the training. They were divided into groups of 10, with an instructor for each group and put to work at the tasks that must be performed on farms. Included were such tasks as cleaning dairy barns, brushing the cows, whitewashing fences and the interior of buildings, pitching hay, harnessing and driving horses, operating tractors, and other similar tasks that are not familiar to city boys, but are an essential part of farm operation.

At the end of the training period 335 boys were considered available for jobs on farms. Some of those who started had made other arrangements, and some were not considered by their instructors as likely to be successful at farm work.

County extension agents in the five counties nearest to Baltimore were asked to receive applications from farmers who desired one or more of the boys for work on their farms.

Reports from county agents in the counties where the boys were placed are unanimous in the opinion that the project was a success and should be repeated and enlarged next year. No doubt, some modifications in procedure will appear wise after the experience this year is more completely known.

The plan for training boys from high schools in Washington, D. C., and placing them on Maryland farms followed an entirely different pattern.

Farm leaders in Montgomery County, which is adjacent to the District of Columbia, began to seek sources of the needed farm labor. Officers of the Farm Bureau, the county extension agent, and the county superintendent of schools devised a plan for giving boys in Washington high schools some preliminary training and making them available for work on farms. Instead of one or more boys being placed on a farm for the summer or a given period, the boys were to be quartered at four high schools within the county, with a supervisor for each group. Any farmer desiring help could make application to the supervisor of the group at his nearest school for the number of boys desired. They would be transported to his farm and returned to the school by bus. The high schools would provide dormitory space and morning and evening meals, when desired.

Only three Saturdays were available for training before the end of the school year. There being no place especially adapted for the training, the boys were divided into groups of 25, each with an instructor, and sent to farms where they could be given practice in various kinds of farm tasks.

It was necessary to provide a supervisor for each of the four schools where the boys were quartered. Teachers of vocational agriculture were obtained for these jobs. It was necessary also to have drivers for the four busses that transported the boys to and from work, and a cook for each school. A budget of the probable expense was prepared by the county agent, the county superintendent of schools, and farm leaders, which was presented to the board of county commissioners with a request that necessary funds be appropriated as a war measure. The county commissioners provided the funds.

In this plan, each boy was paid by the farmers for whom he worked at the rate of 25 cents an hour and his noon meal. He was provided his morning and evening meals and his meals on rainy days, or other days when he did not work, at a nominal cost by the cafeteria in the school where he was quartered.

The maximum number of boys on the job at one time was 126 and the minimum 68. Approximately 100 boys were at farm work for 10 weeks. Reports from farmers as to their satisfaction with the work and the plan are favorable, and the leaders in the project are making plans for repeating it on a larger scale next year.

Baltimore City high-school boys get a little practice Saturday afternoon in the garden of the McDonogh School.



None too young to help in Missouri

The all-out efforts of Missouri farm youngsters in food production, scrap collecting, bond sales, and other important war work look bad for the Axis, as shown by reports taken at random over the State. Instances of youthful stamina and industry cited here are typical of responses of farm boys and girls to war needs.

The three Clizer boys, sons of Mr. and Mrs. Kenneth Clizer of Andrew County, have contributed to Uncle Sam's food storehouse with their 4–H Club projects this year, and at the same time have had a good time, according to County Extension Agent Paul Doll. Altogether, they have produced 5,490 pounds of pork, 1,900 pounds of beef, 625 pounds of broilers, 840 pounds of vegetables, and 60 bushels of corn.

Herbert, 13 years old, raised the championship fon litter of 15 pigs entered at the interstate baby-beef and pig-club show at St. Joseph—a litter weighing 3,370 pounds. He had a baby beef which weighed 1,000 pounds, and he also produced several hundred pounds of vegetables.

Herman, 12 years old, raised a litter of eight hogs that weighed 2,120 pounds and a calf that weighed 900 pounds. He also raised 625 pounds of poultry, and to help in the feeding of his projects he produced 60 bushels of corn from 1 acre of his father's farm.

Ten-year-old Harold had a garden project of tomatoes, from which 480 pounds were used on the family table or canned. Mrs. Kenneth Clizer is leader of the 4–H Club of which the boys are members.

The 4–H Victory Garden of Bobby, Hayden, and Harold Kennen means a lot to the Henry Kennen family in Wayne County. Bobby had a potato project this year from which he harvested 75 bushels of potatoes. He will store enough for family use and sell the remainder. Hayden's tomato project has provided the family with fresh tomatoes since June 17. He sold 10 bushels from his early plants, and the family expected to can at least 200 quarts from the late patch. Harold raised 23 bushels of green beans from which 125 quarts were canned, in addition to all the fresh beans needed.

Eleven-year-old Doris Hershey of the Jones Creek 4–H Club in Newton County has demonstrated how even young farm children are helping with food production and conservation and other important war work. In addition to completing her 3 club projects, she helped her mother to can 600 quarts of fruit, vegetables, and meat. With her 9-year-old brother, Kenneth, Doris collected and sold more than 3,000 pounds of scrap iron, 175 pounds of rubber, and some rags and paper. The children worked in the hayfield this summer and assisted in growing a Victory Garden of 22 kinds of vegetables. This fall, the children have collected and sold walnuts for war purposes.

Members of the Coldwater rural youth group in St. Louis County are demonstrating the many ways in which rural young people can be of service on the home front. Thirty of the members, working on farms or in defense industries, are using 10 percent of their incomes for the purchase of war bonds and stamps. Several have boosted this percentage to more than 25 percent, and every member is buying some bonds and stamps. At a rally recently, the group sold $1,100 worth of bonds and stamps in one evening.

The group recently began using the plan whereby a member of the organization writes to all the boys from the community now in the armed forces at least 1 day in the month. By this method, the boys get regular daily news from the club members at home. At each club meeting the members bring gifts which are all put together and sent to one boy in the service. In this way the boys are remembered regularly.

Although Mary Faith Berghaus of St. Francois County is only 9 years old, she drove the tractor this summer on her family's 125-acre farm. The father, Roy Berghaus, serves his country as a first-class seaman with the Pacific Fleet while Mrs. Berghaus and her 3 young daughters who are under 10 years of age carry on the farm work. During the summer, they tended 10 head of cattle, 7 hogs, a big family garden, and the poultry flock. Their work also included preparing the ground and seeding 15 acres of oats, 15 acres of Sudan grass, and the harvesting of 30 acres of hay. Outside help was employed only 1½ days.

Some methods used to bring in the 1942 harvest

Children help

Several thousand New York school children were released for not more than 15 days of farm work. Exact numbers are not available, but the number is probably more than double the 19,000 released in the fall of 1941. Many worked on their parents' farms; others were from villages and cities, and worked wherever they were needed. Losses of fruits and vegetables because of labor shortage were extremely small in New York, according to T. N. Hurd, specialist in agricultural economics and farm management.

Working with the United States Employment Service, the Student Service Commission, and vocational agriculture teachers, between 400 and 500 high-school students in New Jersey were placed on farms to relieve peak labor-load shortages.

College students released

South Dakota State College students 1,200 strong, both boys and girls, scattered over the State during a 2-week recess from classes in October to work on farms. Most of the students went back to the home farm to help, but those who lived in towns or cities obtained farm jobs through the United States Employment Service.

Students of the University of Pennsylvania with the sanction of school authorities and cooperation of the Farm Placement Service organized a land army of their own to go out on Saturdays and Sundays and help farmers to harvest their crops. They were allowed partial "gym" credits for the work.

All resources utilized

High school and junior high school students, topped and harvested sugar beets in many of the sugar-beet areas of the State of Montana, working shoulder to shoulder with 740 young men from the Montana State College and available crews of Japanese, Mexican, Negro, and Indian workers. The organization and managing of many of the volunteer crews, which also included many adults, was largely handled by Extension workers, cooperating with school authorities, Employment Service officials, and civic representatives.

Texans registered school children for farm work in 97 of their 109 counties, women in 58 counties, and in 40 counties employed most of the townspeople during harvest peaks.

Cotton-picking days

To keep up with wartime demands for cotton, cotton-picking days have been held in north Georgia counties. Active in sponsoring these days have been Victory Volunteers, or farm men and women neighborhood leaders.

Getting in Wyoming sugar beets

After 2 weeks' work, the L. A. K. ranch, 5 miles east of Newcastle, Wyo., still had 180 acres of sugar beets left to harvest of the original 215 acres.

No additional beet workers were available. The situation was serious, especially in this area where early freezes and snow are the rule rather than the exception.

H. G. Berthelson, county agricultural agent in Weston County, took immediate steps to improve the situation. The Newcastle Lions Club responded to the county agent's call; and more than 20 members, including men from all walks of life, descended upon the beet field, pulling and topping with vigor unheard of. With the members divided into teams, a contest was in full sway, the losers to furnish a "feed" and an evening's entertainment to the winners.

Other townspeople were stirred by this patriotic effort, and offered assistance in the beet fields.

School children, both boys and girls, also assisted. Money they received is being used to pay class dues and build up activity funds.

In Big Horn County, Wyo., the businessmen of Lovell kept their stores closed until 1 p. m. to allow all available men to go into the fields and help with the beet digging. Two other towns of Basin and Greybull closed the business places for two half days a week. The high school closed, and 200 boys and girls gave a good account of their work in the beet fields. A sugar company estimated that the value of the beet crop on those farms where no labor was available was more than $400,000 for the beets alone.

In this venture, as well as during the harvest season, the county agent has taken the lead in the procurement and distribution of workers.

FARM MOBILIZATION DAY—January 12—topches off the great wartime food-production campaign of 1943. The United Nations' strategy calls for food as a weapon to build ever-increasing power against the enemy. The food supply is being planned just as the munitions supply is being planned. The planning of the year's production goals started with the deliberations of the Combined Food Board of the United States and the United Kingdom. The needs have been charted. Resources are now being mobilized.

On the labor front

North Dakota neighborhood leaders served as key representatives in bringing to every farm information on the labor situation and measures being taken to help. They also obtained data on the farmer's labor needs to guide the labor program. In cooperation with the United States Employment Service, information was given on locating and distributing workers, and how to get the maximum use of equipment and facilities. Extension agents helped to organize volunteer labor crews in towns for work on farms.

Minnesota neighborhood leaders made a survey of production trends in their own neighborhoods and reported by name farms that were likely to be idle or curtailed in production next spring. The survey was tabulated at University Farm.

TO UTILIZE LARGE NUMBERS OF NON-FARM YOUTH on farms next summer, a plan is under consideration, based on the experiences of the Land Corps and other organizations during the past season, which calls for cooperation of the Extension Service, Office of Education, and the United States Employment Service. Extension responsibility would include helping to select the farms, to supervise the workers, and helping on other matters relating to the farmer-worker relationship.

1943 labor plans

In consultation with the Director of Federal Employment Service for Oregon, the Oregon Extension Service has planned a 1943 labor service which includes a county farm labor subcommittee of the county agricultural planning committee in each county. Data will be submitted by county agents on acreage, volume of production for various crops, and seasonal reports on time of harvest. Such data will be compiled to gage farm labor requirements. Agents will carry on general educational work in the farm labor field. This plan follows closely the cooperative relationships which were successfully maintained in 1942.

4-H extra labor in Wisconsin

■ A labor project suggested last spring by the State 4–H Club staff to clubs throughout Wisconsin enlisted more than 11,000 boys and girls in helping to relieve labor shortages. Of the total number participating, two-thirds were girls and one-third were boys.

In starting the program, club leaders offered 4–H boys, and more particularly 4–H girls, a project for the summer involving farm work. A definite amount of labor—from 150 to 200 hours—was required to win the achievement pin in the victory labor project. Work regularly done, such as housework by the girls and chores by the boys, did not count toward the total.

Leaders suggested that the girls might drive farm tractors or other machinery, milk cows, or substitute for mother in the household while she worked in the fields.

So successful was this past season's project, according to T. L. Bewick, State 4–H Club leader, that a 1943 labor project, especially for the boys, is now being set up. At least 100 hours of extra work on the farm or in the home will be required of each boy to complete the project. The boys will not count, in figuring their total of 100 hours, the regular duties which they might normally be expected or required to do. Their 100 hours will begin after an 8-hour day and a 48-hour week.

The enthusiasm with which these 4-H young people tackle the job this year is found in the reports which they have submitted. Seventeen-year-old Barbara Harris, Lima Center, Rock County, writes: "Last summer I drove the tractor during the haying season and rode the grain binder when we were cutting grain. I thought this was a lot of fun and didn't mind doing it at all. I used to have to wait for my father to mow the hay, so while I was waiting I would come into the house and embroider. I told my mother that I had to be a 'lady' while acting as a 'farmer.'" Besides her work in the fields, Barbara helped more about the house this year and did the family marketing to save her parents' time.

Learning to milk was one of the things that 11-year-old Betty Eleanor Hoesly accomplished this year. Her home is just over the Wisconsin border, in Green County, on Route 1, outside Albany. Betty found it fun to milk. "At first I milked only one cow," she writes. "After I had milked her for about 1 month, Daddy let me milk two cows. Now I milk three. Mother and Father say it helps them."

Then there is Nancy Smiley, also of Route 1, Albany. Only 12 years old, she milked cows, drove the horses on the hay loader, painted the porch of their home, and drove the tractor.

Eugene DeYoung, who lives in Rock County, near Whitewater, has just been awarded a $100 war bond as a national 4–H Club garden contest winner. The award included a trip to the National 4–H Club Congress in Chicago. And Eugene has earned a little holiday. Although he is only 16 years old, he carried nine projects this year in 4–H Club work and handled most of the work on the family's 60-acre farm. The neighbors were short of help, so Eugene helped, cutting grain and threshing. Then, late in the summer, he was asked to take a milk route. Expecting to drop it when school started this fall, he found there was no one else available to take over. So he has continued the route, starting at 7 o'clock in the morning and, by special permission of his teachers, reporting to school about 10:30 or 11 o'clock each morning.

Hawaiian students pick coffee

A student work camp on the Island of Hawaii was successfully carried on for 2½ weeks. Extension agents in 2 counties assisted school authorities, coffee farmers, and military authorities in helping to harvest this year's large coffee crop. The Department of Public Instruction, with the cooperation of the Army, sponsored the Camp. One hundred and thirty-six boys from 6 high schools were recruited and harvested about 2,300 bags of coffee berries for which they were paid $1.25 a bag. County agents placed these students on the farms where they were needed and made adjustments whenever there was any complaint from either the students or the farmers. They also gave demonstrations in picking coffee for the students. The student pickers were used on 35 farms of about 175 acres in South Kona and on 12 farms of about 100 acres each in North Kona.

Mobilizing 3,500,000 farm workers

■ Recruiting for the U. S. Crop Corps is now in full swing, aiming to enlist 3,500,000 farm workers before the season is over. The Extension Service has an important part in the program, being responsible for the mobilization of local labor resources. The Farm Security Administration is responsible for the transportation of workers and the operation of farm labor supply centers for the housing of these workers. The U. S. Employment Service is handling recruiting in towns and cities outside strictly agricultural areas, with the aid of county councils of Civilian Defense and other local volunteer groups.

Three types of workers are being recruited; year-round workers needed on livestock, dairy, and diversified farms; seasonal workers, needed during the crops season or for the summer; and emergency harvest workers who will be recruited from villages, towns, and cities to work a certain number of week days, half days, week ends, or evenings.

Agents to Place Workers

In all agricultural counties, county agents with volunteer help are registering recruits for the U. S. Crop Corps and are listing individuals for specific jobs at specific times. In rounding up help for harvesting and other special emergencies, many agents are finding their experiences of last year helpful. At that time they found labor resources in the county that they did not know existed. Some of these resources have been recorded in the REVIEW, such as the account of railroad shopmen in Pettis County, Mo., who helped harvest the grain crop when they heard of the need from the county agent.

Accurate information on just how many of the three types of workers will be needed in each county will be one of the first considerations. County AAA committeemen are now at work on the 1943 farm plan sign up which gives information on the number of workers available on each farm and the additional workers needed.

If the number of Crop Corps recruits the agent is able to enlist meets the need, the labor program in that county will consist of following up the recruitment program to see that workers are placed when and where needed. If there is a shortage of local labor and there is not a sufficient surplus in adjacent or nearby areas, the county agent can report that fact to the USDA War Board which will call upon the Farm Security Administration to furnish workers from outside sources. The transportation program is available for transporting seasonal and year-round workers. Farm Security will sign up these workers and move them to the areas where they are needed.

The national program calls for transporting about 275,000 seasonal workers, many of whom will work at several different locations.

Year-round workers, to be drawn mostly from the less productive farming areas where there is a surplus of agricultural manpower, will be transported principally into dairy and livestock areas to replace experienced workers who have entered the armed forces or war industries. The program calls for the moving of 50,000 of these workers and for short courses of training at State colleges of agriculture and elsewhere for those who need training before taking jobs. It is contemplated that some of the year-round worker recruits will be placed as renters of farms which otherwise would stand vacant this year.

The victory farm volunteer branch of the Crop Corps will recruit 650,000 nonfarm high school youth in cooperation with the Office of Education to work on farms during the summer months. The need for these young workers is determined by the county agent in cooperation with other agencies. The placement and supervision will be in the hands of the agent. The young people will get some training in school on what to expect in farm work, but their success will depend a great deal on the judgment of the agent in placing them and to what extent he can enlist the interest and cooperation of farm families.

The Women's Land Army branch of the Crop Corps will be composed of nonfarm women interested in serving regularly as farm workers, and is being developed by the Extension Service cooperating with the U. S. Office of Education, FSA, U. S. Employment Service, and other interested agencies. Some women are already receiving training for such work in special courses offered by the University of Maryland, Connecticut Agricultural College, Farmingdale Agricultural College, and other qualified schools. To utilize last year's experiences in this field, the Extension Service called together representatives of all agencies—public and private, which had organized city women to do farm work. They met on January 8 and 9 and formulated recommendations calling for a women's land army under the direction of the U. S. Department of Agriculture and gave certain suggestions for conducting it. These were developed in more detail by a workshop committee of extension workers, State and Federal, meeting in Washington early in February and were discussed with State directors at the two regional conferences.

Events Move Fast

The entire Department of Agriculture's labor program has been developed since January 24, when the War Manpower Commission assigned full responsibility to Secretary Wickard. Responsibility for the development and direction of this program has been placed with the Agricultural Labor Branch of the Food Production Administration, with Maj. John O. Walker in charge under M. Clifford Townsend, Director of Food Production.

A request has been presented by the President to Congress for funds to finance this program through the 1943 crop year. These funds would be used to provide transportation for workers, to operate 250 new farm-labor suply centers in addition to the 95 present centers, and to enable the Extension Service to employ labor assistants to handle local recruitment and placement.

The phases of the program to be handled by the Extension Service were first considered by State directors serving on the Extension Committee on wartime policy called to Washington January 29 and 30. Their suggestions were further developed in a workshop conference the following week in which both State and Federal extension workers and also representatives of organizations which had been active in mobilization of farm labor took part. These plans were then considered by State directors and those appointed to head the labor activity in each State at regional conferences held in Baltimore, Md., February 12 and 13, and St. Louis, Mo., February 15 and 16, preliminary to getting the program under way in March.

Training underemployed farmers for work on Ohio dairy farms

FLOYD S. DE LASHMUTT, Extension Specialist, Farm Management, Ohio

An experimental program of recruiting, transporting, training, and placing year-round agricultural workers was started when 60 Kentucky farmers were sent to Ohio State University for a short training period before being placed as dairy hands on Ohio farms. Mr. De Lashmutt, "dean" of the training school, here reports on how this part of the experiment is working out.

Farm Security Administration contacted our Dean John F. Cunningham and J. I. Falconer, chairman of the department of rural economics, in December to discuss the possibility of developing a training course for Kentuckians recruited for farm labor in Ohio.

A joint committee from the college, the Extension Service, the Bureau of Agricultural Economics, and the Farm Security Administration was set up to discuss the matter. The committee decided in favor of a trial group. To work out details, a college committee was set up to plan and schedule a course following the suggestions made by the policy-making committee mentioned above.

The college committee set up a 2-week training course as a "feeler." This course was weighted by 2 days' work in the dairy barn, ½ day in the poultry plant, ½ day for interviews (by groups) with the Rural Sociology Department, and the rest of the time was scheduled for farm machinery. The committee believed that most of the time of the trainee should be devoted to machinery used on farms in Ohio.

We organized the trainees in groups of 10 men each. Then we asked each group to elect their own group leader, which they did. The trainees really came through on this, and the group leaders took their position seriously. All orders, changes in schedule, and the like were handed to the group leaders in an evening session to be relayed to members of their groups. Suggestions for improvements came from the leaders at our request. These leaders were a great help in maintaining morale.

The first 2-week training period was, in our opinion, too long; so we carefully studied the situation and shortened the second group's training to 1 week of intensive work. We cut the dairy-barn work to 1 day, left the poultry work and interviews at ½ day, and intensified the farm-machinery work by grouping only six men in each group and spending more time with each man. The result at the end of a week justified the change, we thought.

It is difficult to keep up the morale of a homesick trainee, with no certain job in sight, for more than 1 week. At the end of a week, the man gets restless and wants to talk about work and wages. He wants to see something definite in sight. In the evenings, we showed these men films and sound movies on subjects suggested by the Rural Sociology Department. Some of these films were entertaining, but most were educational.

We planned this work so that every trainee actually did the work and handled and adjusted the machinery. We did not make the training a lecture course. About the only lecture was a "Safety First" talk presented by an agricultural engineer on the first day. We wanted to be sure that these men realized the dangers from fire and power machinery.

The faculty was at first picked from those men on our college and extension force who have had experience dealing with adults. We didn't want ordinary student methods used. The college farm superintendent and his crew of farm workers handled a large part of the machinery work. These farm workers did a real "bang up" job of instructing. So did all the rest of the instructors, too. The point is that it was not necessary to have all college-trained men for this work.

The trainees in both experimental groups reacted very well. Some few got homesick and went home. For the most part, they "ate up" the farm-machinery work. That was what they liked, and that was what they needed.

The comments from the instructors were very favorable. A few of the trainees were slow but no greater percentage than is found in any group of students. The farm superintendent who directed all these men through the work on tractors and planting machinery speaks very highly of the ability of these trainees to absorb knowledge of these complicated tools.

We divided the machinery work for study into tractors, plowing and fitting tools, planting tools, hay tools and harness, combines and harvesters, lime and manure spreaders.

We gave the first group some work with small tools and ropes but found that it wasn't needed. We cut that out of the schedule.

In the dairy barn, we gave the men experience in getting cows in and out; cleaning and bedding; getting out silage; feeding, clipping, and cleaning cows; and observation of machine milking.

In the poultry house, the trainees learned how to enter a poultry house, some points on sanitation, filling feed hoppers, watering devices, and cleaning.

Quite a few of these trainees had opportunities to leave before the last day of the training period (1 week) was over and would not go until the course was completed.

We feel that, although improvements still could be made, the course is worth while as an orientation effort. These trainees all felt a little more confidence in themselves as prospective farm workers.

We felt that the effort was sufficiently worth while to justify setting up a schedule for 12 1-week training periods following January 1, 1943.

Harvesting sugar beets

Another good story of ingenuity in meeting the labor shortage comes from Rosebud County, Mont. The county agent initiated the program which harvested 45 percent of the 4,100 acres of sugar beets in the county. School children, town people, Indians, and farm women and children were recruited as voluntary workers. A sugar beet subcommittee of the county labor committee functioned throughout the harvest season, keeping current and detailed surveys by farms of progress in the beet harvest, and directed workers to the places where they were needed most. The committee also organized crews and furnished transportation to the various farms. Approximately 20,000 tons of sugar beets would have been frozen in the ground this fall had it not been for these volunteer workers.

FARM LABOR is the No. 1 farm problem under consideration this month. The extension phases of the national program described on the first page are in charge of M. C. Wilson of the Federal staff.

STATE VIEWPOINTS on labor problems are well presented in up-to-the-minute publications coming to the office. One of the best is a mimeographed bulletin from Illinois "Making the Most of Available Labor," by J. E. Wills, J. B. Cunningham, and P. E. Johnston. The authors give explicit directions, illustrated with Illinois examples, for using labor more efficiently in many practical ways. They discuss everything from scheduling the farm work, labor-saving practices, and pooling equipment and labor to keeping the hired man satisfied.

FARM WORKERS DEFERRED under the new selective service deferment regulations worked out jointly by the Manpower Commission and the Department of Agriculture, by the end of January numbered more than 350,000 farm operators and hired men. It is expected that deferring of essential farm operators and workers registered in the draft will continue at an accelerated rate.

IMPROVING EFFICIENCY IN THE HOME so that farm women can keep up the essential home tasks and at the same time do the necessary work in the fields and around the farm under present conditions is proving popular with home demonstration women. A new bulletin from the State of Washington, Step by Step in Everyday Tasks, by Esther Pond, with pictures and text, shows how to do household tasks the simplest and best way to relieve war pressures on the homemaker's time.

VICTORY FARM VOLUNTEERS coming to Illinois farms will find the new bulletin, Living and Working on a Farm, a great help. Prepared for high-school boys and girls from cities and towns, the bulletin is well illustrated and classified and is presented in a form easily understood. Crowded into the 60 pages are the principal things they will need to know about and save the new worker much embarrassment. It was prepared by the Extension Service for use in schools and published by the State Council of Defense. "Guides to successful employment of nonfarm youth in wartime agriculture," prepared by the Children's Bureau, is a smaller publication illustrated with sketches to help make the meaning clear, and will be found useful to those supervising or employing young people.

Utilizing every labor resource

■ Plans for maximum production are being crystallized as planting gets under way. Extension's part in the national labor program is to mobilize all local resources, inaugurate an efficiency-educational program, and help in making city women and youth available for work on farms. Reports indicate that agents are ready for action in each of these fields.

Some counties, as Summit County, Ohio, are setting up voluntary exchange centers in each township to share both labor and machinery with the maximum efficiency. Other counties are successfully using neighborhood leaders as in Clinton County, Ohio, where groups of neighborhood farmers work out their own problems and report to township chairmen. Two parishes in Louisiana put in a big acreage of string beans for canning and have arranged to dismiss school as soon as they are ready to pick.

In Minnesota, the Governor has appointed Director Miller as State manpower director, and all of the agencies working on the problem have agreed to cooperate fully in developing a unified State program. A State committee, with Director Miller as chairman, has planned a unified program for the State. One subcommittee has developed a program for mobilization and placement in counties and communities. Under the Minnesota plan, trade area committees are set up by the county committee to consider the present placement organization and to recommend either a continuation of the present arrangement or specific changes. This committee will provide for listing the needs of the farmers in the trade center area and for mobilization in cooperation with the county committee.

Illinois reports that considerable progress has been made in local solutions to local problems arising from discussion at school district wartime educational meetings which have been made a big factor in stimulating farm thinking and action.

Increasing labor efficiency

■ With the general shortage of farm labor hitting all parts of the country, only two kinds of solution are possible. One is to get more labor and the other, to make better use of what we have.

E. R. Jackman, extension specialist in farm crops at Oregon State College, has concentrated on the second solution, with particular reference to saving labor in putting up hay. Hay is a vital factor in Oregon's dairy and livestock production, hence any reduction in hay supplies would be reflected in the Food-for-Victory campaign.

Jackman approached this task as he has many others. His first principle is, that to get a practical program working the experiences of successful farmers will have to be obtained. The next principle is, that to spread a new or improved idea it will have to be put into a form that will attract attention and get sympathetic hearing.

Following out this idea, he sent letters to scores of farmers in all parts of the State asking for their experiences in putting up hay with the least amount of labor. After receiving this information, Jackman compiled it and added his own observations. He then began sending it out to the county agents in his own distinctive and decidedly bright and interesting mimeographed letters.

His first letter on this program was sent out late in November 1941, when the prospective shortage of labor in 1942 was apparent. Numerous ways were discussed of "cheating the labor bogey" by using more pasture, hogging and sheeping off certain crops, employing crop rotations that will avoid use of extra labor, and using labor-saving machinery when the machinery itself could be had. In this letter, the hay program was only touched on by referring to the fact that pick-up balers are good business where hay is to be baled anyway, and that, in most places, the practice of cocking hay is wasteful because it requires extra labor and increases the drying time of hay, thereby increasing the danger from rain.

Results of Jackman's inquiries of farmers showed that efficiency in handling hay varied from 1 ton a man a day, where hay was shocked by hand, hauled on wagons, and forked into barns by hand, to 11 tons a man a day, where buck rakes and slide stackers were used. The estimated cost of moving hay from windrow to barn or stack ranged all the way from 60 cents to $4 a ton.

The results of this farmer survey were sent to all county agents and cooperating farmers; the methods were tabulated and actual comments included. One comment, from John Porter of Long Creek, follows:

"Curly Lodge told me that the beaver slide stacker is the fastest way known to man to stack hay. He said that Sam Ross at quitting time counts his stackers, and if they are not all there, tears down haystacks until he finds them; and up to date he hasn't lost a man, but he has had that outfit only the last few years."

Another comment, from Jack Proebstel, was that "all this talk and the methods devised for keeping what farm labor we have is Bologna in its purest form. If I were a hired hand and could get $10 or $12 a day in a defense industry, I wouldn't stay myself, and neither would you."

Robert Weir reported that if hay is yarded first, it has a chance to settle and the loads go up better. He has a derrick mounted on wheels which does not need taking down to be moved.

These are merely samples of the information sent out in April 1942, which certainly carried a down-to-earth flavor of practicality.

In May, just before hay season started, Jackman followed with a letter "to give some preliminary information on what I believe to be 'tops' in hay-making methods." This letter included a description of the Montana slide, or beaver slide stacker.

Figures supplied by Sam Ross, a Jordan Valley farmer, were quoted showing that he averaged 140 tons of hay put up a day with a five-man crew at a daily cash cost of only $26.50. This amounted to just under 20 cents a ton for all cash expenses. If it came to a showdown, Ross said, two men could pile up 100 tons of hay daily by this method. Although the hay would not be stacked in very neat piles, it would keep till feeding-out time.

Jackman also reported to the county agents that Earl Price of the agricultural engineering department had prepared a blueprint showing construction of this type of stacker and also that some models had been made. A few farmers were able to make these stackers in time for the 1942 haying season. This past winter the campaign was continued, the model stackers being taken to various livestock growers' and other farmers' meetings where blueprints were also available.

Jackman's conclusions, after his study of haying methods, are that for small or medium-sized ranches a Jayhawk stacker is the best labor-saver. This is a combination buck rake and stacker. One man can operate it and can deliver hay onto a stack at either end or anywhere along either side. This permits a fairly large stack to be built by two men. For the large ranches, however, he is recommending the beaver or Montana slide stacker.

By means of his human-interest letters, his equally interesting radio programs, and news stories, Jackman has succeeded effectively in calling widespread attention to one possibility for solving the farm labor problem. Needless to say, his letters are welcomed in county agents' offices, where mail piles up in such quantities that much of the mimeographed material slides into the wastebasket without receiving much attention.

Manpower and foodpower in Britain

Francis Flood—world traveler and former midwestern farm editor, who was employed for several years by the United States Department of Agriculture, and is now with the British Supply Council—recently gave the following description of British agriculture under wartime conditions.

■ Can farmers, United States or British, in the face of labor shortage and other difficulties, keep farm production at the present high levels? If so, how? In the United States the question is to be answered in 1943. In Britain the answer is already on the record of four wartime harvests.

In the United States, the urge to greater farm production is the knowledge that food will help to win the war. United States farmers plant for victory; British farmers plant for life or death.

Britain is only about the size of Iowa and Indiana, but has 47 million people to feed, a third the population of the whole United States. Pre-war Britain imported almost two-thirds of her food suply. A little more than one-third of her ships were needed to bring in that food. Then came the war. Most of Britain's nearby sources of imported food were lost to the Axis, and her ships were either sunk or needed to carry munitions of war and soldiers throughout the Empire, for patrol work, and moved in slow convoys.

Britain met these problems in three ways: (1) by increase of home production; (2) by rigidly rationing food so that it would serve to its maximum; (3) by getting food from other parts of the world, wherever shipping would permit, including lend-lease food from United States.

Britain's total plowed acreage has increased by 50 percent since 1939. Yields have also increased under pressure from the County Committees who exercise rigid wartime controls.

By 1941 it was apparent the limit had been reached. In the face of labor shortage and other obstacles it was even doubtful if the level could be maintained. The problem in 1941 was much like that of the United States now. Could the peak be maintained? The answer in 1942 was a substantial increase. And the goals for 1943 call for a still further increase.

Britain now produces nearly two-thirds of its present reduced food supply, as compared to little more than one-third pre-war.

This has not been an uncontrolled general increase, coaxed from farmers by higher prices. It has been a planned adjustment, under the strict control of the Ministry of Agriculture and the County War Committees. Oats production increased by 75 percent, potatoes 71 percent, total grain crops 62 percent, and vegetables 50 percent. While the number of beef cattle, sheep, pigs, and poultry has been reduced, dairy production has increased in spite of labor shortage Since the dairy cow furnishes more food per acre or per ton of feedstuffs than do meat animals, dairying has been increased at the expense of meat production.

This bigger farmed acreage is in spite of the loss of thousands of acres of good farm land taken by the Army and R. A. F. for the hundreds of airfields and army camps scattered all over England. Now more airfields are being built for reverse lend-lease bases for the United States.

New Land

Besides plowing up arable pastures, Britain reclaimed much new land that had never been farmed before, including scrub, moors, steep hillsides, and rough land. For example, in the winter of 1940–41, at the height of the Battle of Britain, when one of every five homes in all Britain was being destroyed or damaged, over 150,000 acres of completely waste marshland were drained and reclaimed and are now in production. Big estates, golf courses, parks, gardens, and similar areas in Britain have been put under the plow. Many fields are plowed now for the first time in a hundred years. Today there is no idle acre in Britain.

Yields per acre have been stepped up, and farming in Britain now under the strict control of the County War Committees, is at its most productive level. The national average wheat yield in England is 36 bushels per acre, twice that of the United States.

Wartime Farming Difficulties

Kent County, England (The White Cliffs of Dover County), is an example of England's wartime farming in the face of difficulties. There on the Chalk Cliffs the English farm under direct shellfire from the big guns in France.

There, as throughout England, every level field of a few acres or larger is studded with wooden poles stuck in the ground at intervals of a few rods to prevent invading planes from landing. These must be farmed around. Tank traps and home guard trenches are slashed right across the fields to be farmed around—adding labor. Grain stacks must be scattered, instead of bunched for efficient threshing, to avoid incendiary bombs. Cows must be penned at night in scattered barns and corrals to guard against the herd being wiped out by bombs. All this means more work—in the face of labor shortage. On farms near R. A. F. fields, farmers found it almost impossible to use horses because of the frequent air battles at low levels during the Battle of Britain.

One would, of course, expect Kent County's production to fall off under such conditions—but the figures show that Kent County's 166,000 acres under the plow in 1939 had increased to 260,000 acres in 1942.

Other handicaps include a farm labor shortage much more acute than in the United States, a farm machinery shortage much more acute than in the United States, and the black-outs, which of course, exist on every farm. Every farmhouse and every barn and corral and shed are completely black all night and every night. This is a very real handicap to production.

Farm Labor

The farm labor problem has been partly met by the use of the Women's Land Army. This consists of girls who have enlisted for the duration, to serve as "hired men," just as other English women have enlisted in the various armed services. These are recruited from the cities, since farm girls are frozen on the land anyway. In many cases women do all the work on large dairy farms. At present there are over 50,000 of these regularly enlisted Land Army girls who work a minimum of 48 hours a week for small pay and under regular official discipline. Today these girls, chiefly from the cities, are one of the actual mainstays of English farming.

Another substitute for labor is greater use of tractors. To buy a new tractor a farmer must share the use of it with his neighbors, under strict supervision of the County Committee. The County Committee itself owns tractors and machinery and does custom work with Land Army girls and other labor for farmers at cost. In one county, Northumberland, the County Committee owns and operates 500 tractors. No machine is idle. They are tractor farming at night under dim-out lighting conditions.

Old people who had quit farming years ago now do full-time or part-time heavy farm work and stand their regular fire watching, plane spotting and home guard watches besides. Elderly people, formerly retired, are a large part of the farm labor in Britain today.

Food Rationing

In England food has been carefully rationed for 3 years. This prevents waste. It makes the food serve its maximum usefulness. United States farmers will be glad to know that the food they raise which goes to England serves to its maximum, because of rationing. Rationing has saved the day in England.

Lend-Lease Food in England

Lend-lease food from United States now furnishes something under 10 percent of England's total food supply, and something under 25 percent of her total protein food supply.

United States farmers will be interested to know that food in England produces more planes, tanks, and guns and other munitions of war per ton than it does in the United States. England, with one-third of the United States population, produces far more planes and tanks and guns than the United States per capita—until last summer actually more in total each month. With the United States producing these war materials at such an amazingly high rate this means that England's 47,000,000 population is producing very efficiently, on a very limited food supply.

United States farmers will also be glad to know that of all this production of planes and tanks and guns by England, most of it is exported from England to foreign United Nations fronts—which are United States fronts. When building up for the African campaign, for instance, 80 percent of all of Britain's munitions production was exported from Britain.

Thus lend-lease food to England contributes to the making of planes, tanks, and guns just as does food to Detroit—more so if one considers the fact that England produces on the minimum dietary level, while the United States is on a very high dietary level, very near an all-time peak level, the best fed of all the United Nations.

United States farmers who have increased food production and who plan further increases for 1943, or the American housewife who watches her family's diet more carefully, will be glad to know that extra food thus made available for lend-lease supplies to England contributes so directly, and without waste, to the production of planes, tanks, and guns for the United Nations' effort.

Taxation

Income taxes are incomparably higher in Britain than in the United States and have been for some time, even than the new United States income tax level.

The standard income tax rate is 50 percent. For a single man the income tax begins at $440 a year. For a married man at $624.

Manpower

Of the 33 million people in Britain between the ages of 14 and 65 there are 23½ million working full time in industry or the armed forces. Another 2 million are working part time. This rate for the United States would mean about 65 million, which is the figure suggested by the President as the total manpower of the United States to be mobilized.

In Britain, 67½ percent of the girls between the ages of 14 and 17, and 77 percent of the boys are now engaged in war work. About 8 million women have been mustered into industry in Britain, of which 2½ million did not work in peacetime. About 13 percent of Britain's steel-workers are women and nearly 50 percent of Britain's aircraft workers are women.

There are about 250 thousand women in Britain's armed services, purely military organizations, with over 13 thousand of them actually under fire alongside the men in the anti-aircraft batteries.

Britain's War Effort

About two-thirds of Britain's national income goes directly to the war effort, the rest to meet civilian needs—which come last. (This compares to something under one-half of the United States national income currently devoted to the war effort.)

Normally the people of Britain spend about one-fifth of their income on their Government and four-fifths on themselves. Today they spend about three-fifths to fight the war and about two-fifths on themselves.

One home out of every five in all England has been damaged or destroyed by bombs—more than 2½ million homes. These are constant reminders scattered throughout England that the war effort comes first.

Calling all youth labor



■ Supt. H. L. Kistler, of Wood Lake, Nebr., is explaining to his group of high-school boys some things to consider in operating tractor and mower equipment.

It is all part of a plan started last summer by County Agent Edgar E. Van Boening to train Cherry County high-school students for farm work to help out in the labor shortage. As a result, a register of the rural and town high-school boys and girls of Cherry County was established. On file in the agent's office is an individual card index containing each youth's name, address, age, parentage, availability, qualifications for summer work, and reference.

This youth registration has also helped the boys and girls to find work in their vacation periods. Last summer, 15 town boys and girls obtained work on ranches and farms. Several of them went out to the farms a week or two earlier to become better acquainted with their jobs.

Agent Van Boening has since been called to the service but E. M. Brouse carries on.

Full steam ahead on farm-labor program

■ Aware of the responsibility that is theirs, extension agents face the big job of organizing to meet the farm-labor shortage. It is up to them to make the plans work in spite of the difficulties of unskilled labor, of prejudices against the type of workers available, of tardy organization, and many other difficulties with which agents are only too familiar.

A law placing much responsibility on the Extension Service was passed by Congress. A few days later, northeastern directors, their labor assistants, editors, and a few key personnel met to complete plans for their campaign to beat the farm-labor shortage. Following this, the north-central workers met in Chicago, April 23 and 24; the southerners met in Memphis, April 26 and 27; and the westerners in Salt Lake City, April 30 and May 1.

Much had been done before this. A program to help out in the emergency was developed by the Department of Agriculture and in a number of States; and activities to relieve the situation were under way, initiated by a number of public and private organizations. The job of the Extension Service now will be to work all this into a broader national effort in which every organization and every person interested in agriculture has a responsibility.

The cooperation of the Office of War Information is helping to carry the needs of agriculture as a national issue to every citizen. Plugs on familiar radio programs, posters, motion pictures, and national advertisements are carrying the message to support the local work of the county agent and others working on the specific job of locating and placing workers on a particular farm with a labor problem.

The Office of War Information is keeping in close touch with the labor-campaign manager in the Department of Agriculture, who is L. A. Schlup, editor of the EXTENSION SERVICE REVIEW. With the help of extension agents, he will try to carry on this national advertising and informational program in a way that will support the work in the counties most efficiently. The facilities of the Office of War Information and of the Department of Agriculture are here to help make this work a complete success.

Extension activities as planned fall into four categories: The Victory Farm Volunteers, or the city young people enrolled for farm work; the Women's Land Army, enrolling town women; an educational campaign for greater labor efficiency on the farm; and local mobilization of all resources in nearby towns to meet emergencies. M. C. Wilson, formerly in charge of Extension Studies and Reports, has been appointed to direct the extension labor program, assisted by H. M. Dixon, who has been in charge of extension agricultural economics work.

The Victory Farm Volunteers are now being enrolled in many cities. Early in March, the Office of Education sent out suggestions to school counselors on training Victory Farm Volunteers. High schools in many cities near agricultural areas are ready to go ahead. Dr. Frederic B. Knight of Purdue University has come to Washington to head up this work for the Extension Service, and Dr. Frank Lathrop of the Office of Education has charge of VFV work in schools.

The Women's Land Army will be in charge of Florence L. Hall, formerly field agent, home demonstration work, Northeastern States. Application blanks and a circular of general information for recruiting city and town women are being prepared. It is planned to cooperate closely with all organizations now working on recruiting city women for work on farms.

The educational plan to increase labor efficiency is receiving attention in many States. Such simple and practical leaflets as the one from New Jersey, You're the Boss, help farmers to see the point. Demonstrations in teaching unskilled farm workers, as given at a number of extension conferences by L. J. Fletcher, are proving an effective way of initiating both county agents and farmers into the field of efficiency studies to save labor. In the Federal Extension Service, L. M. Vaughan is directing this work.

One big job which is now demanding attention everywhere is the organization of the county farm labor center. Farm labor committees are functioning satisfactorily in most counties, helping to determine labor needs and taking part in other activities. Facts must be collected; and information from the 1943 farm plan work sheets, records from the U. S. Employment offices, and census facts need to be brought together and summarized in the light of local judgment to find out just how many young people, how many women of the Land Army, and how many local emergency workers will be needed, and when. In this work, the extension agents will cooperate closely with the U. S. Employment offices. Barnard Joy will have charge of this phase of the activities for the Federal Extension Service.

Neighborhood leaders serve labor cause

In many counties, neighborhood leaders are taking their place in plans to meet the labor shortage. Some of the ways in which the leaders are functioning are indicated by these examples from three States.

Neighbors agree on machinery use

■ The farm-labor problem was the first to be considered when the neighborhood-leader system was set up in Tipton County, Ind., in June 1942. From the beginning, Walter M. Clary, county agricultural agent, assisted the neighborhood leaders in considering the problems of this highly agricultural county from the labor angle.

Located in central Indiana, in the center of the Corn-hog Belt, Tipton County, with no large war plants or camps, is devoted largely to the production of crops such as corn, soybeans, and oats, and of livestock, particularly hogs. The terrain is level, and the soil is fertile. Its chief problem is the production and harvesting of its crops.

When the neighborhood-leader system was organized under the direction of County Agent Clary, a man was selected in each neighborhood as a community cooperator. It was his duty to obtain cooperation in the use of labor, machinery, and transportation within his neighborhood or community.

In the fall of 1942, the community cooperator started his first county-wide job. The 1942 acreage of soybeans had been increased to 15,400 acres, almost double the 8,844 acres of the previous year. The yield per acre also promised to be higher than that of 1941. Also, the weed problem would decrease the efficiency of the combine in some fields. There was a possibility that many acres of soybeans might not be harvested ahead of bad weather.

The Tipton County neighborhood-leader committee approved the use of a cooperative plan. Township meetings of the community cooperators were held, and the possibility of a neighborhood-cooperation plan on the use of combines and labor was discussed. Some neighborhoods also approved the use of corn pickers cooperatively. The community cooperator was the chairman or organizer in his neighborhood. Many community cooperators received fine cooperation in the program of getting the job done earlier, getting combines to do custom work, and obtaining trade-of-work agreements.

On November 15, after which date wet weather prevented the combining of soybeans except for a day or so at a time, only about 6 percent of the acreage of soybeans was uncombined. Some neighborhoods or communities had their entire crop of soybeans combined. In neighborhoods and communities that had the most active cooperative arrangements, a higher percentage of the acreage was combined on the average.

The cooperative plan on labor and machinery made it possible to get a high percentage of the soybeans combined before wet weather in the fall of 1942. A further expansion of this program continued during March 1943 to obtain more working agreements on labor and farm machinery during the year.

Labor and farm implement shortages are affecting Tipton County as they are other counties. The supply of reliable year-around farm hands has been exhausted long ago, as has the supply of experienced seasonal farm laborers. Farmers are of the opinion that the trading of farm labor and cooperative operation of farm implements will do the job more easily, faster, and better than the use of a large number of inexperienced farm laborers.

Thus, the modern, labor-saving farm implements and labor available can be concentrated on one field at a time and then moved on to a neighbor's field. Two neighborhoods already have worked out their summer and fall neighborhood-cooperative plans before the series of meetings starts.

The plan they have worked out is as follows: The community cooperator will call together his neighbors. They will know what implements they have among themselves and with their closest neighbors will work out trade-of-work arrangements on work such as haymaking. On the larger jobs, such as combining soybeans and picking corn, a neighborhood cooperative plan will be organized. Some owners may not want to rent or lend their combines or corn pickers to be operated by a neighbor. Working agreements will be planned whereby this owner may do the combining or corn picking and a neighbor may drill wheat, do the plowing, and grind feed.

The success of this program within the neighborhood depends largely upon the interest of the community cooperator in the program. If he is a good neighbor and interested in the community cooperation, he will obtain good cooperation from the majority of his neighbors.

Getting peanuts to market

A labor shortage in November threatened disastrous delay to harvesting of the peanut crop in Brown County, Tex., especially threshing and baling of the hay. No transient or outside labor could be obtained.

The County Agricultural Victory Council, the Texas neighborhood-leader group, took charge and organized neighborhood-labor groups. Every farm family joined in the effort. Here's County Agricultural Agent C. W. Lehmberg's story of how it was done.

"Daylight hours were not long enough, so the work was carried into the night. Automobile lamps furnished light. Threshing machines, balers, and trucks ran until the small hours of the night, but the job was done and the crops saved.

"An outstanding feature of the joint undertaking was hauling the nuts to warehouses. Growers pooled their trucks for this part of the task. In several instances, tires were removed from trucks to equip one for service. In another case, a wheel and the body of a truck were removed to the running gear of another because it was better qualified to carry a big load. By sharing labor, trucks, and even gasoline, the job was completed successfully.

"The women did their share by providing food and coffee to keep the gangs going."

Evolving a plan

Eighteen neighborhood leaders were appointed in Hamilton County, Kans., early in 1942 before the labor shortage became serious. These leaders met to consider ways and means of meeting the problem and developed a farm-labor program. This program, including education, fact finding, and action, was explained to farm operators at two Saturday afternoon meetings, April 18 and 25, and farmers agreed to cooperate in putting the plan into effect.

To get at the facts first, neighborhood leaders found out just how much labor was available on each farm in the neighborhood and how many workers would be needed and just when they would be needed. They also collected facts on farm operations and how much of the past year's labor was still available. Publicity was given to these activities of the neighborhood leaders. In addition to the leader surveys, the schools gathered information on available school youth, and the schools and the Defense Council found out about available "town labor."

The county agent served as the employment officer and worked with the U. S. Employment Service. Local people directed migratory workers to the county agent, and the USES brought in workers from Missouri, Arkansas, Oklahoma, Nebraska, and Iowa. As far as possible, "orders" were sent in by neighborhood leaders 5 or 6 weeks ahead of the need. These were routed to the Garden City office of the USES.

The consensus of leaders is that the needs were quite well met in 1942. In the sugar-beet harvest, 70 youths were released from school for half of the day, and workers from Syracuse helped in the beet fields. The high-school youths were also employed during the summer vacation.

The neighborhoods divided into groups of five or six operators for exchange of work and machinery. There have been no problems of misuse of machinery or unsatisfactory

relationships as a result of the past year's experience. Rather, many farmers seem to enjoy this old-time practice of neighborliness. The wholesome community spirit in Hamilton County and the general awareness of the war issues are thought to be factors in the success of "mutual aid" phases of the program, but intelligent leadership and painstaking organization deserve much of the credit. The same program is being followed in 1943. The USES is signing up the neighborhood leaders as volunteer farm-placement representatives.

Selective Service

A four-point program to keep necessary agricultural workers on the farm:

1. State and county War Boards are authorized and instructed to seek deferment of necessary farm workers when the worker or employer fails to request deferment, and to take appeals from local board decisions re farm workers when they believe such action is justified.

2. Local boards shall refer to a War Board farm workers who are not producing enough agricultural units to warrant classification in Class II–C or III–C and shall allow 30 days for placement where workers can produce the required number of units.

3. Local Selective Service boards are instructed to classify in Class II–C or III–C any registrant with agricultural experience who has left farm for other work, provided he returns to agriculture and becomes regularly engaged in and essential to it prior to his receipt of order to report for induction into the armed forces.

4. Local Selective Service boards are instructed not to reclassify necessary farm workers out of deferred classifications, even if calls for military manpower remain unfilled.

Farm workers are being transferred to farm-deferred classes at nearly 6,500 a day, and by the end of 1943, it is estimated, 3,032,000 will have been so classified.

A threshing ring

When labor shortage threatened to immobilize threshing machines in Utah County, Utah, last August, Thomas M. Anderson, president of the Lake Shore Farm Bureau, called a group of farmers to his home early one evening to talk over the problem of getting their grain threshed.

Farmers who attended agreed that, inasmuch as their county had found itself in one of the most rapidly developing industrial areas in the West, little or no relief in the labor shortage would be forthcoming. Consequently, they voted to organize a threshing ring, and right then made plans.

Mr. Anderson reports that 10 farmers in the same neighborhood pooled their labor, teams, and wagons, and selected a good thresher operator with a machine, and they threshed all the grain for the 10 farmers in 9 days. No help was hired, and there were no complaints. On the contrary, there was much satisfaction expressed by the members of the pool because they finished the job in a reasonable time and had crew enough to do each day's work.

So successful was this and other pools in Utah County that Agricultural Agent S. R. Boswell is recommending that a leader or group of leaders be selected to promote such type of cooperation in the various communities in his county.

Negro boys and girls—635 of them—in Florence County, S. C., have made a food-production record which is encouraging to the war effort. Home gardens were increased by 95 acres of vegetables; almost 9,000 quarts of meats and vegetables were canned; 95 boys produced more than 3,000 bushels of corn; 100 boys fattened 167 pigs for home use; 45 club members raised 5,437 broilers; and 14 fattened beef calves for canning and marketing, all of which is no mean contribution to Food for Victory by the Negro boys and girls of one county.

Husking bees revived

Many of the young men from Wolford community, W. Va., have been called to the armed forces. Two of these boys who were called last October had raised a good crop of corn, and the corn was still standing in the field in shocks when the boys had to leave. They found it impossible to get the corn husked before they left. Two of the prominent farmers of the community, Dan Lawrence and Asa Pennington, talking over the situation, hit upon the plan of reviving the old custom of a husking bee to take care of the corn for the boys instead of giving them the usual type of farewell party.

The Wolford 4–H Club of 15 members were all anxious to take part in the event, so they persuaded the farmers of the community to have the husking bee at night so that the young people in school could take part in it.

On Monday, October 19, corn from a 10-acre field was piled up during the day. Electric lights were put out into the field, and that night after supper 16 men and boys and 11 women and girls began husking—and how they worked! There were friendly contests, swapping of stories and yarns, vying with each other to see who could find the most red ears; and, of course, it was lots of fun. By midnight, the corn had practically all been husked and hauled to the crib. Then the folks all joined in enjoying a midnight feast or supper.

Everyone enjoyed the husking bee so much that the next night another one was held at another farm in the community, and 250 bushels of corn were husked. The second event proved to be just as successful and enjoyable as the first. But two husking bees on successive nights called for a night of rest, and so on Wednesday everyone stayed at home and got some sleep.

But Thursday night found them all out again for the third husking bee. By this time the adventure had proved to be a success in everybody's mind; and, as 16 different farm families were represented in the husking bees, they had decided to have 16 of them, or one for each farm family participating.

Of course they weren't able to hold all of them as rapidly as the first three, but by the end of November the husking bees had been held for the entire community; and all of the corn had been husked, and everyon had a good time doing it.

M. R. McClung, county agricultural agent in Tucker County, reports that the Wolford community is now so thoroughly sold on the idea that cooperation will go a long way toward solving the farm labor problem that they have convinced other communities. Husking bees and other group activities in which all the farm people of the neighborhood or community join together are proving that teamwork makes the job easier.

Training new hired men

Training men and boys whose labor is not used at maximum efficiency on their own farms goes forward. In 25 States, 60 short courses are now being offered under this plan. From the cut-over land in northern Wisconsin and the mountains of Kentucky, they have come to the State Agricultural College for a few weeks' training for work on dairy farms, as described in these two items:

Twenty-two farmers eager for training

■ As part of the program to help relieve the farm labor shortage the College of Agriculture and Home Economics of the University of Kentucky trained 22 farmers from Adair, Wayne, Pulaski, Russell, Rockcastle, Casey, and Whitley Counties in Kentucky. These men were selected by the Farm Security Administration. They arrived in Lexington Saturday, January 30, and were housed in a hotel in downtown Lexington. The staff spent Saturday afternoon and Sunday getting acquainted with the men and getting information about their experience and the type of work in which they would like to engage after the close of the training program. Practically all of the men had had experience with walking plows, scythes, and mowing machines; and most of them had done such farm jobs as harnessing and driving teams, fixing fences, cutting, shocking, and harvesting corn, and milking by hand. Few of the men had operated tractors, two-row corn planters, combines, or ensilage cutters; and none had used milking machines.

The training program began at 5 o'clock on the morning of February 1, when one group of men reported at the dairy barn. After 3 days in and around the barn, during which time the men became familiar with all operations common to a large commercial dairy, they changed to farm machinery. Two full days were devoted to the study and operation of tractors, mowers, binders, corn planters, grain drills, plows, rakes, hay loaders, ensilage cutters, feed grinders, and tobacco setters.

Then the men spent one-half day at the poultry farm, one-half day studying vegetable and fruit production, and one day working with hogs, including some practice in slaughtering. One valuable feature of the course was a farm trip. Dairy farms near Lexington were visited, and the men had an opportunity to see actual farm operations under conditions similar to those in which they might expect to be placed.

At the end of the short course, each man was awarded a certificate which stated that he had successfully completed a certain number of hours in each type of work. Twenty of the men were placed on dairy farms and general farms around Lexington, Shelbyville, and Louisville, Ky., and two were placed on farms in Ohio.

In such a short period of time we did not hope to give men extensive training in any phase of agriculture, but rather our plan was to give them an opportunity to become acquainted with a type of agriculture that is entirely different from that to which they had been accustomed in their home counties and to make it easier for them to adjust themselves to new conditions. The college is following up these men to find out how well they are succeeding in their new work. They were eager to learn and cooperated wholeheartedly with our staff during the entire short course. The men have not been on the job long enough to determine how well they are adapting themselves to their surroundings, but it is our opinion that they will have no difficulty in fitting themselves into central Kentucky farming situations.—*L. J. Horlacher, assistant dean in resident teaching, University of Kentucky.*

400 trained by planting time

A second battalion of Wisconsin's "land army"—140 young men to supply needed labor for strategic farms—were already on farms March 15, according to representatives of the 3 organizations which sponsored this unique movement to help ease farm manpower shortages.

The program was developed by representatives of the Farm Security Administration, United States Employment Service, and the University of Wisconsin. Its formula is simple: Get trained farm workers located where they can do the most good.

It began late last year. Since then each of the three agencies has been doing its share of the total task.

At the start it was apparent that untapped labor supplies existed in northern Wisconsin, chiefly on the farms that were too small to use all the labor they had available. It was equally apparent that dairy production on the larger farms in the southern part of the State would be badly handicapped and the food-production effort slowed down through labor shortages.

Surveys carried on by county agents confirmed these conclusions, and so FSA men went to work recruiting the underemployed young men from the smaller farms for jobs where they could contribute in full measure to winning the war.

But dairying is a technical occupation for which many of the boys were unprepared. Every farmer is aware that it takes plenty of knowledge and background to farm well, and particularly is this true of livestock farming.

That's where the University of Wisconsin came into the picture. Using the facilities of the annual winter short course, and under the supervision of Short Course Director John R. Barton, it provided a 5 weeks' refresher course with the goal of helping these lads to fit into their new jobs and their new communities.

Meanwhile, the idea was extending elsewhere through the country. George Hill, the University of Wisconsin rural sociologist who has been in charge of the county labor surveys, was granted a leave of absence to go to Washington and head the farm labor section of FSA. Under his direction, there were almost 60 such courses opened in 25 States.

Training in the Wisconsin refresher course covered a broad schedule. Then at the end of the 5 weeks the first battalion of 50 boys was graduated, and the U. S. Employment Service took over the job hunting for them. They were placed almost as soon as they had finished their class work.

A few days after the first group finished, a second group was on the campus, repeating the courses in farm machinery, dairying, crops, farm animals, and community living. This group numbers about 140, and will be through with its training by mid-March.

There are special plans for the third section, which will begin training at that time. Farmers will already be planning their spring work, and so these 150 lads will find what previous classes learned in 5 weeks—and in a very condensed course—crammed into 4 for them. Regular courses will still be supplemented by the usual programs of lectures, forums, field trips, and other activities.

Placement is not proving to be any problem at all. Farm people are clamoring for help, and particularly the kind the Wisconsin program can produce. Supply, and not demand, seems to be the controlling factor. But by planting time there will be nearly 400 of these young workmen contributing their time to bring Wisconsin its best food-production year.—*A. W. Hopkins, Extension editor, Wisconsin.*

Farm workers pro tem

The responsibility of mobilizing local workers to meet crop emergencies has been delegated to extension agents by the Secretary of Agriculture. These three examples of successful recruiting in Rhode Island described by Extension Editor H. M. Hofford are typical of the ways in which it will be done:

■ Edwin Knight has a 32-acre apple orchard near Greenville, R. I. Last summer he saw his trees—some 2,000 of them—laden with the biggest crop he'd had in years, but with no one to help him get out the harvest.

He told his plight to the northern Rhode Island county agent, who, working with the extension horticulturist, the State Department of Agriculture, and the Bureau of Markets, arranged to have a "picnic workday" for statehouse stenographers.

On Tuesday, August 11, Mr. Knight sent a bus to the capitol; and as soon as the girls, 14 of them, closed their typewriters for the day at 4 o'clock, they climbed into overalls, boarded Mr. Knight's bus, and were carted to the Greenville orchard. At 4:30 they began picking, and when the picnic supper bell rang at 7 o'clock, they had gathered 147 bushels. The local Red Cross canteen was mobilized to prepare the supper.

The girls were paid 10 cents a bushel, and the $14.70 they earned that afternoon they gave to the USO—because the change from office routine, combined with beneficial exercise, and the knowledge that they were aiding in our war effort were worth more than the pin money they had earned as farm laborers.

Their exploit set an example for other urban groups who came forward to volunteer when needed, and it is expected that there will be a good bit more of it this summer in the farm-labor-shortage area of Rhode Island where war industries have drained the reservoir of surplus help that would ordinarily be available in the seasonal agriculture of the State.

Practical persons who might want to discredit the capabilities of high-school pupils as farm laborers can ask Everett McCaughey, instructor of vocational agriculture at South Kingston, R. I., high school, whether such youngsters are able workers.

He knows, because last September when Rhode Island potato growers telephoned him for help to get in the potatoes, he arranged his classes so that a group of from 14 to 20 pupils could work in the fields every other day and all day Saturdays for the 6 weeks when the potato farmers needed them.

By having double periods a day, the pupils were able to get the same amount of academic "hourage," being willing to sacrifice their free study periods to the cause of getting out the crop. They were paid 5 cents a bushel, and it was an easy day's pay to check in for $3 at least.

As youngsters are of varying strength, Mr. McCaughey let the less rugged boys—and one girl—do the lighter jobs; and the stronger ones pitched in at the heavier lifting, hauling, and bagging jobs, for which they were paid 50 cents an hour.

His crew worked from 8 a. m. to 4:30 p. m., and by the time the corn harvest season came along, the farmers were paying 60 cents an hour for shucking corn. And the lads of 12 and 13 proved to be the best workers, Mr. McCaughey reports.

That war workers employed in factories react favorably to a change of routine as farm laborers was proved last summer in industrial Rhode Island.

When the State's fruit growers were threatened with the loss of thousands of bushels of apples because they did not have the help needed to bring in the harvest, some mill owners in the apple district posted notices in their plants urging workers of the middle shift to volunteer part of their day, while not working in the plant, as farm assistants.

Thus, throughout the daylight hours, apple growers had a flow of war workers, many of whom were glad of the chance to get some of the crop in pay rather than cash. As a result, more apples were available in Rhode Island locker plants and more glasses of apple jelly on pantry shelves this past winter.

Snap beans from Maine to Louisiana

■ It takes plenty of hand labor to harvest snap beans, whether they grow at the top or the bottom of the United States. Patriotic farmers way down East in Maine and way down South in Louisiana heard the war call for more vegetables, expanded their plantings of green beans, and gambled on their ability to harvest them. They were justified in their faith by schoolboys. Boys of the Scout troop in Penobscot County, Maine, saved a quarter million pounds of beans last summer, and schoolboys and girls of Terrebonne Parish, La., are even now picking the snap beans from an acreage six times that of last year.

School out to pick beans

The war seemed a long way off from the Parish of Terrebonne in southern Louisiana. But when the call came to plant more and more vegetables this year, the farmers responded wholeheartedly. They were asked to increase their production of snap beans by 10 percent. In their enthusiasm, they planted six times as many snap beans as last year—10,000 acres of beans. They planted 30,000 acres of Irish potatoes, too.

That is a lot of beans and potatoes, no two ways about it! But Terrebonne farmers refused to be discouraged by the shortage of labor and the mountains of vegetables. They held a series of conferences, enlisting the help of their county agent, the Farm Bureau, the parish war board, the Houma-Terrebonne Chamber of Commerce, and the parish police jury.

They decided that the teen-age boys and girls in the parish schools were the best source of labor, so they asked for the cooperation of the local superintendent of education, H. L. Bourgeois. Mr. Bourgeois was wholeheartedly in favor of enlisting the young people as pickers if a satisfactory plan could be worked out.

The school board met, representing towns and rural districts alike, and a committee of the growers presented their problems. The school board came to the rescue valiantly, voted to hold school on Saturday so that the work of the term could be finished by May 15 rather than May 28. Harvesting of snap beans will begin about May 1, and from that time on school will be dismissed earlier each afternoon to give the boys and girls several hours of picking time before dark.

School busses will be used in transporting the boys and girls to and from the fields, and the pickers will be paid the regular rates which are based on the number of pounds picked. Approximately 2,000 workers will be made available through this plan, and those beans and potatoes should be picked in record time.

There was no compulsion about the board of education's plan, but the youthful recruits seem to realize that the need is acute and the time is short. Excellent cooperation seems assured.

Scouts save crop for Uncle Sam

About a hundred Maine youngsters from the Bangor-Brewer-Old Town-Orono area pioneered in a social and economic experiment in two shoestring-operated work camps near Dexter and Hartland to save a quarter million pounds of green beans which otherwise would have rotted on the vines for lack of pickers. The boys, averaging 14 years of age, were all members of Boy Scout troops; and they worked in the Penobscot County bean fields because Carl Thunberg of Bangor,

Katahdin Council Scout executive, was willing to gamble on their willingness and ability to reclaim a bean crop sorely needed in the war effort in a work entirely foreign to nearly all of them.

Carl Thunberg, the quietly brilliant, slightly stubborn, and entirely likable Scout executive, was willing to bet on the two most variable things known to mankind—weather and city boys in the country—to harvest that bean crop for Uncle Sam.

When he thought of establishing work camps for Scouts in the green-bean section of the county, several difficulties not easily overcome obtruded themselves: First, how to sell the idea to parents and youngsters; next, how to get equipment and supplies for the centers where the youth would stay; and how the enrollment at Camp Roosevelt, Scout institution on Little Fitts Pond, would be affected by the establishment of two noncost camps—camps where the Scouts earned money.

He put the matter up to the Katahdin Council committee which gave him permission to go forward with the project; and after several weeks of consultation with employment officials, packers, farmers, and youth leaders, the locations were chosen and the business of borrowing equipment from many sources began. Farmers, packers, Government men, leaders of youth, all agreed with the Scout executive that the jobs could be done by the boys. And they all pitched in to get stoves, tents, and other necessary equipment.

The camps are necessarily run in a businesslike fashion. The St. Albans center is under the leadership of Manning N. Arata, field Scout executive of Hancock. It serves the area in and about Hartland. The Dexter camp, known as Camp Victory, is administered by Fred Quigley, Dexter school teacher, veteran Scouter, and a friend to all boys. Both camps work in conjunction with big packing companies.

The boys in the two "food for victory" camps work 6 hours a day, receiving approximately 1¼ cents a pound or about 20 cents a basket for beans picked. A fee of $1 a day is charged against each Scout—the amount calculated for operating expenses. This fee establishes the work objective of each camper, and each Scout allowed to remain at the camp must maintain average earnings of at least three-fourths of this amount. Scouts who pick at a rate beyond that which will earn their fees receive the balance due them at the end of their stay in camp. No cash transactions are allowed in the camps; a coupon system does the work.

The boy who doesn't want to work, or who comes to the camps anticipating to be boarded and paid for clowning his way through what is supposed to be a working day, returns home. This is war, even for youngsters.

There is a keen competition between the patrols at Camp Victory in Dexter, and a kind of joyous, friendly rivalry springs up when a youngster triumphantly shouts "Basket!" and takes it to be weighed.

The Scouts are turning into real farmers, according to Fred Quigley, Camp Victory's director, who is seldom seen without a group of boys affectionately trailing him.

"They look at the sky like old hands and want good weather as much as the crop owners," he says.

And Horace McKenney, a Dexter farmer for whom about 25 of the Scouts worked—a man who never wastes words—says, "Most of 'em are pretty good."

That is about as near to an accolade as one is likely to get.

MINNESOTA FARMERS will have opportunity to get some of the ideas in training inexperienced workers which industry has developed during recent months. Twelve Minnesota extension specialists have been trained in the job-instruction training method by a member of the Minneapolis regional office of the War Manpower Commission. At a special conference, April 12 to 15, all county agricultural and home demonstration agents received training and made plans to carry the ideas to farmers. An extension committee is adapting the Job Instructor Training guide to agricultural use. Those who saw L. J. Fletcher of the War Activities Committee, American Society of Agricultural Engineers, give the introductory JIT demonstration at the Baltimore and St. Louis labor conferences agree that "it is the best demonstration on how to give a demonstration" that they have seen. The JIT slogan, "If the worker hasn't learned, the instructor hasn't taught," is sound extension philosophy.

RECRUITMENT OF BAHAMA ISLANDERS for farm work in south Florida began on March 25. The first group arrived at Miami April 9; about 5,000 are expected. The Government of the Bahama Islands signed an agreement with the Department of Agriculture providing for the importation of workers, both men and women, from the islands into the United States for agricultural employment in Florida and adjoining States. This is the second agreement which the United States Government has negotiated to bring in foreign farm workers to assist as needed with this Nation's wartime food and fiber production in labor-shortage areas. A program for the employment of Mexican agricultural workers in California, Arizona, and other southwestern States has been in progress since last August. An agreement has been worked out with the Government of Jamaica, calling for importation of up to 10,000 workers.

The challenge of the 99 percent

FRANCIS FLOOD, Assistant to the Administrator, War Food Administration

The 99 percent of the Farm Labor Problem which Colonel Taylor says will be solved in the country is in the hands of three groups—extension workers, emergency laborers, and farmers.

■ It is both a compliment and a challenge to Extension when Lt. Col. Jay L. Taylor, deputy administrator of WFA in charge of farm labor, insists that the farm labor problem will be solved about 1 percent in Washington and 99 percent in the country. Colonel Taylor has made that statement repeatedly. He made it at each of the regional extension conferences held in April, and the streamlining of his program indicates that he intends it to work that way.

The Job Is Vitally Important

It is a compliment because the larger share of the administrative responsibility has been handed to Extension—as every extension worker knows by now. It is a callenge because it is one of the biggest single assignments Extension has ever had in its history of big assignments, and because of the vital importance of the job itself.

But, although Extension has the administrative responsibility, the over-all responsibility for solving the farm labor problem is shared with two other groups. They are similarly responsible.

One of these groups is the available labor supply itself. There are hundreds of thousands of workers who can do farm work who are not on farms now. These include townspeople available for part-time of full-time work. They include high-school and college students who are willing and strong but inexperienced. They include women. They include retired people who have earned retirement and in peacetime should not be expected to work but who in wartime can make a hand.

It is the responsibility of these people to go out to the farms and prove their worth and work. It is from this group that the U. S. Crop Corps will be enlisted or not, depending on how this group meets its responsibility. Last year the response was splendid. So far this year the response seems to be even better. Countless incidents are reported every day of the people responding to the call for farm help in the emergencies. During the sugar-beet season last fall, one western town practically closed up while the people worked in the beet fields; and on the door of one closed beauty shop a sign read: "Back at 6. Out in the beet field. Why aren't you?"

They seem to be meeting their responsibility.

The other group that shares the responsibility is made up of the farmers themselves. Theirs is a big share. The farmer wants skilled and experienced help, especially at this time when he is trying for greater production and perhaps has less machinery, equipment, and supplies with which to work.

But it is the farmer's responsibility to use this inexperienced labor this year. If he does use it, and if he trains it carefully, it will help to meet his labor problem. If he refuses to use it, he has not done his part to meet the problem.

It is the farmer's responsibility to compete with the armed forces and the war industries for this labor supply. He can hire this labor, or refuse to hire it and watch it go to other employment.

Lieutenant Colonel Taylor said recently on the radio: "The farmer will not get his share of this labor if he refuses to hire a young man because he is inexperienced. Remember that thousands of young men who were not experienced as farm-tractor drivers are now driving General Sherman tanks and flying bombers—and, believe me, that is skilled work, too. It is the farmer's responsibility to be as willing to use this labor and to teach it as the Army and the war industries are."

Success Demands Teamwork

If the total effort succeeds, it will not be because of the Extension Service alone, or the labor supply alone, or the farmers alone. It will be because all the agencies, both official and unofficial, worked together to arouse in the consciousness of the potential labor supply the need to offer their services on farms and to arouse in the consciousness of the farmer the need to use this labor and make the most of it.

It is a joint responsibility, this 99 percent that lies in the country. Extension can be counted on to do its part.

Crop Corps gives certificate of service



■ When they are placed in their first job all workers in the U. S. Crop Corps will receive a certificate like the one shown. This certificate, to be given by the county agents, bears the signatures of the War Food Administrator and the chairman of the War Manpower Commission. It is countersigned by the State director of agricultural extension. The certificate is about 9 by 11 inches, but a small edition about the size of an automobile driver's permit will be given to migratory farm workers, both domestic and foreign. Some of these cards will be printed in Spanish for the Mexican workers.

City workers on English farms

MARY GRIGS, Women's Editor, Farmers Weekly, London, England

Many extension workers met Mary Grigs on her recent swing across the country from coast to coast, visiting home demonstration workers and farm homes in dozens of States. She was interested to see that home demonstration agents knew as much about what was being done for agriculture in their own counties as the men agents did. She follows plans for the American Women's Land Army with great interest because she believes so thoroughly in the English land girls, whom she describes for REVIEW readers in this article. As she sails for England, she sends a greeting to her many, many new friends in rural America.

■ In England, we also have a farm labor problem. Men, with us as with the United States, were wanted for the armed forces and for industry. All but the essential workers, in the essential aspects of food production, had to be taken from the land. We were, too, faced with the urgent need to raise more food from our own soil than ever before. There were various ways of raising it—by plowing up half as much acreage again as was in cultivation before the war, by more intensive production, by stepping up the quality as well as the quantity of crops. But all such plans turned on an adequate labor supply. It is largely due to the city people that farmers in the British Isles have been able to provide enough food to keep the people healthy.

The Women's Land Army is the most conspicuous organization of this aspect of the war effort, and perhaps it has made more difference to the farmer's opinion of townsfolk than anything else could have done. Sixty thousand women and girls who were stenographers, manicurists, college students, waitresses, or just leisured women who knew the rural areas only as holiday playgrounds are now working full time on the farms. They get very little pay compared with industrial workers. After deductions have been made for board and lodging, the guaranteed minimum is around $3.50 a week. Theirs is a war job, and they have gone into it on that basis.

Being on a small island, importers before the war of two-thirds of everything we ate, we soon realized sharply that food is as vital a weapon as any in the armory.

Being a "land girl" means taking on one of the hardest, longest, and proudest tasks in the battle. It also means learning as much as possible of an entirely new skill in the shortest possible time. The Land Army has a 4-week training, either at an agricultural college or at a farm recognized by the authorities for this purpose. You do not learn in 4 weeks to be a farmer—or even a skilled farm laborer. But you learn how to milk by hand or by machine; you discover a little of what raising food means, your muscles get limbered up, and you acquire a rudimentary understanding of a good many of the jobs you may be needed to do—and of the responsibility that goes with doing them.

After that training, the girls either go out onto individual farms or are given additional instruction in specialized work. Most are on individual farms. They are "billeted" either with the farm family or in a nearby cottage. Then, according to their aptitude, they will gradually take over more and more of the routine work so as to free the farmer and his keyman or men—according to the size of the farm—for the highly skilled and technical operations. Many farmers who looked on this whole scheme very doubtfully, and did not really believe it would be any good, have said candidly that in many respects these girls have turned out to be more efficient than the men—in the milking sheds, for example, and with young stock; on truck farms; and in some of the fruit-growing work.

As for the more specialized training, that takes various forms. The County War Agricultural Committees, which in some ways do the work of your War Boards, have instructed hundreds of groups of girls in threshing grain, tractor driving, and plowing; in the maintenance and repair of farm machinery; in handling the difficult and often exceedingly heavy business of land clearance and drainage; in forestry and timber work; in pest destruction. Groups of girls are helping to free the farms of rats by taking a special course in using ferrets for this purpose. Lately, another special course has been taken in seed dressing, and WLA girls will this year be going around the countryside to dress home-saved seed with an organo-mercury compound. For some of the work, it is more sensible to house the Land Army in hostels than in private billets; and then they live very much as if they were in a real army—in wooden huts, sleeping in two-tier bunks, with a common recreation room.

But whatever their work or the conditions of living, the girls feel that farming gives them an opportunity nothing else can offer. It opens up a new skill and a new way of life. Their uniform—they have a good, free uniform: shirt, knee-breeches, knitted stockings, shoes, overalls, overcoat, hat, raincoat—is a symbol of a form of war work that has no room for fools or for slackers. It is bringing a new kind of mutual understanding between town and country. And it is a considerable part of the reason that Britain is now raising two-thirds of her own food instead of one-third.

Mary Grigs talks over some of the problems of a Women's Land Army with T. B. Symons, director and dean in Maryland, where one of the first short courses to train city women for jobs on the farm was offered. Miss Grigs talked with some of the 26 women just completing their 2 weeks' course.



Tips for teaching new farm workers

TYRUS THOMPSON, State Club Leader, South Dakota

Sheep ranchers and foremen in South Dakota trained more than 100 boys from the towns of Deadwood and Lead to help during the lambing season on the western ranges of the State. The ranchers and foremen were trained by State and county extension personnel.

Farmers and homemakers face a huge job of training new and inexperienced workers this year. Many inexperienced persons will be going onto farms and into homes to assist with the essential work of farming and homemaking. Every farmer and homemaker has a particular way of doing jobs on the farm or in the home, and usually has good reasons for the methods used. It is logical that much of the training should be done by the farmer on his farm or the homemaker in the home.

Good instruction will greatly reduce the time required for new workers to learn new jobs, and also reduce wastage of materials, damage to equipment, and accidents.

Realizing this, the State Extension Service is attacking the farm and home labor problems with the slogan, "If the worker hasn't learned, the instructor hasn't taught."

The farm job-instruction program was started by first presenting and pointing out the possibilities of job-instruction training to all State and county extension workers at two meetings held for county and State extension workers. One meeting for all east-river county extension agents and State workers was held at State College, Brookings; and the other meeting was held at Rapid City for all extension agents located in counties west of the Missouri River.

Following these two extension meetings, plans were made to have a job-instruction training institute under the direction of an instructor from the regional office of the War Manpower Commission at Minneapolis.

Extension Director John V. Hepler named me, as a member of the State Extension Labor Committee, to head the job-instruction program in the State. The job-instruction training institute of 4 days, which was held at the State College, April 5 to 8, was planned by W. E. Dittmer, district extension supervisor and chairman of the State Extension Labor Committee; K. Lorette Nelson, home management specialist, in charge of Women's Land Army activities; Milo S. Opdahl, district 4-H Club agent, supervising the organization and training Victory Volunteer Youth Corps, and me.

The 10 State extension workers selected to attend the institute conducted by A. B. Algren, regional chief of training, War Manpower Commission, Minneapolis, were W. E. Dittmer; K. Lorette Nelson; Milo S. Opdahl; S. W. Jones, agricultural planning specialist; George Anderson, farm management specialist; Maude Stitt, extension nutritionist; Esther A. Taskerud, assistant in club work; Clarence Shanley, district extension supervisor; and T. O. Larson, district 4-H Club agent; and me.

After 30 hours of training, each was certified as a qualified war production trainer. The next objective was to use these qualified persons in training all the county and State extension personnel in order to make an educational contribution to the agriculture of the State. Two-day meetings were arranged for all county and home extension agents, meeting in groups of 7 to 10, the last 2 weeks of April to receive the 10 hours of job-instruction training.

County and home extension agents in every county of South Dakota then will conduct job-instruction meetings in their counties among farmers and homemakers.

Food production is essential to the Victory program; and the national production of foods, fats, and fiber can be greatly increased with fewer people if the inexperienced are properly instructed in learning new jobs.

LABOR RECRUITMENT is successfully under way in Johnson County, Wyo. Seventy high-school boys, enlisted to help in lambing, began their work in April. An arrangement was worked out with school authorities so that the boys could make up for time lost. Cooperating with the local post of the American Legion, 166 oil workers were signed up to work on ranches during the 2 days they have off each week and their 2-week vacation period.

Husking bee, 1943 version

Giving many of her Sundays and holidays to work on nearby farms, Ruth Dunbar Donald, a stenographer in the Department of Agriculture, Washington, D. C., on weekdays, tells of her experience.

■ Farmers in the vicinity of Washington, D. C., are cooperating splendidly with the week-end farm workers of the American Women's Voluntary Services, and are appreciative of the help being rendered by them.

Sunday morning, April 18, a crew of 30 of these week-end farm workers—loaded into the AWVS station wagon and extra automobiles—headed for the Leeton farm in Fairfax County, Va., operated by Sidney Smith. Their assignment was corn husking.

Except for their work gloves, they looked like the usual city crowd off for a hikers' holiday. For some of them it was their first experience at the work. Others had been at it for several week-ends. All of them were stenographers, telephone operators, radio mechanics, or Government clerks during the week.

When the workers reached the Leeton cornfield at about 10 o'clock, Mr. Smith gave a few minutes' instruction and demonstrated by shucking a few ears. Then the 30 workers went to work, and in about 5 hours had shucked out the field, piled 250 bushels of corn, and tied 500 bundles of fodder, ready for the farmer to haul out of the field on Monday.

The work cost the farmer $16, and 250 bushels of corn and 500 bundles of fodder were out of the way of the spring crop and added to the Nation's feed supplies.

AWSV week-end farm hands are paid according to the work they do, piece-work fashion. As their experience increases, the amount of work they do increases. They gather cress, pick fruit and vegetables, and do many other such jobs. They shuck corn and clear a field for the oncoming crop; and, at the same time, get a great amount of fresh air into their lungs, exercise into their muscles, and morale into their backbones.

Most important of all to them, they get favorable comments from the farmers: "They did good work. Will need workers again about June 20 to harvest wheat. Will call."

The Juniors, too, have been doing their share of farm work. On Saturday, April 17, for example, 12 of the Junior AWVS girls, under the leadership of Mrs. John McNamara, worked at the Leon Joyce farm near Camp Springs, Md., where they pulled and bunched 2,400 bunches of spring onions for market. Not the pleasantest kind of farm work, either; yet the youngsters wrote on their work slips such comments as "swell" and "fun." One girl wrote "I still like it." The farmer said: "Send them back again as soon as possible."

City workers who shuck corn and pull onions apparently are in earnest about wanting to help, as indicated by these examples of the many and varied types of farm jobs they are doing.

Labor resources materialize in Mississippi counties

■ Organized harvesting groups of rural students in Jones County, Miss., not only proved satisfactory to the boys and girls who helped to pick beans, cut spinach and mustard, and dig sweetpotatoes, and to the farmers and the local canning plant, but also assured the producers of canning or processing crops of a labor supply sufficient to meet the needs for this production and harvest.

At a recent conference, officials of the Mayhaw Canning Co., at Laurel, Miss., leading farmers, and extension leaders recognized that past experience in adjusting the local school program to permit the use of farm boys and girls for work in their respective communities had proved satisfactory.

Some farmers were a bit skeptical at first toward a plan to have the students work in a group and go from farm to farm harvesting crops in their own community. However, farmers who desired to have their children assist in harvesting crops on their own farms soon realized that the group spirit which existed under the leadership of the local teacher proved even more valuable. The plan proved successful last year and will be followed again this year.

Another source of labor in Jones County, which is expected to be organized soon, is a lumber mill which is about to finish cutting most of its timber, when a number of its employees will be dismissed. Most of these laborers come from farms; and, according to farmers, this is the next most desirable labor to be obtained.

Still another source of labor, which will be utilized if needed for special jobs, is the nonfarm high-school youth, including Boy Scouts, High School Victory Corps members, and others. However, this labor, it was pointed out, would necessarily require some special training and the direction of local leaders, teachers, or school principals.

Jones County leaders believe that there is an abundant supply of labor available for meeting all needs of production and harvesting of crops in the county if it can be organized and unified in accordance with the needs. Present indications are that prices of farm produce will be sufficient in 1943 to guarantee a desirable wage scale for farm labor.

A local committee is being organized, which will coordinate and unify all efforts of recruiting, training, placing, and handling local available labor in connection with the farm needs.

Last year in the Copiah County truck area, the public schools operated during rush seasons on a short-day schedule, which permitted the boys and girls to spend afternoons in the fields and help to harvest the heavy bean, cabbage, and tomato crops.

The rural boys and girls who were dismissed from school at noon went to their respective homes and helped to harvest crops on their own farms. The older boys and other available town laborers were organized into groups and transported by trucks to the farms.

Town women also played an important part in solving the labor shortage. Women replaced, in most cases, the men who had been employed at the packing and grading sheds, thus releasing more men to work in the fields.

With the help of city and county leaders Marion County farmers have set out to solve their labor problems. Approximately 2,000 farm laborers were pulled off the farms in Marion County as the result of new industrial enterprises established in Columbia.

The county farm-labor committee organized in Marion County consists of the county agent, home demonstration agent, assistant agent, superintendent of schools, secretary of the Chamber of Commerce, and the manager of the local canning plant.

This committee proposes to adjust the rural school program to permit farm boys and girls to assist in heavy-season jobs; to transport surplus labor from a submarginal area where lumbering is slowing up, to organize available idle labor in the towns, and to mobilize and utilize trained high-school and nonfarm youth.—*Jack Flowers, associate extension editor, Mississippi State College.*

Production must go forward

Agents speed aid to overcome flood damage

■ Beginning in May and continuing into June agents in hundreds of Midwest counties took their places among other agencies doing their full share in battling the flood. They helped farmers to overcome the damage done and get the vitally important crops planted in spite of the flood and its aftermath. In many counties it could be said, as it was said of County Agent D. D. Brown of Warren County, Mo., "He was the first man to visit farm homes when the floodwaters in the Missouri River lowlands gradually receded, and he was the last man out in the earlier stages of the flood."

Agents have been on the job morning, noon, and night, organizing labor and machinery pools, encouraging the farmers, collecting new seed stocks, planning for the vaccination of cattle and hogs against disease, locating facilities for cleaning tractors, and, in short, finding some way to meet the 101 problems which such an emergency produces.

The neighborhood leaders, because they were ready and knew just what to do, called at once upon that good neighbor spirit of mutual helpfulness in time of trouble. In Illinois, a week before the flood tides reached their crest, 30,000 neighborhood leaders had been supplied with replanting recommendations to guide them in giving aid to their neighbors.

Neighborhood leaders were especially helpful in St. Charles County, Mo., where the Missouri River flooded 677 farms. All livestock had to be taken out and provided with temporary range on adjacent uplands. For a time it appeared that there would not be enough hay to meet the requirements of animals crowded into temporary enclosures. The upland farmers began immediately to cut alfalfa which had been held back by unseasonal cool cloudy weather. Even though it was difficult to cure this hay, it was possible to provide livestock feed for the emergency. In these operations leaders located quarters for refugee families, and shelter, range, and forage for animals. They helped the agents in gathering information about distressed farm families and damage to buildings, equipment, machinery, levees, fences, and stocks of seed and feed.

In Arkansas extension agents worked with the Red Cross in a campaign to obtain donations of surplus garden seed. Collection depots were set up in each county. Home demonstration and 4-H Club members took the initiative in many counties, making a house-to-house canvass. Seeds poured in, some counties collecting as much as 300 pounds of seed of beans, mustard, radish, collard, corn, cucumber, cantaloupe, okra, spinach, and chard. Tomato and cabbage plants were offered in some cases. The seed collection drive was launched because preliminary surveys showed that local seed houses in some places were practically sold out of vegetable seeds, and the only sources immediately available were unplanted supplies in the hands of farm families and Victory gardeners.

The neighborly pooling of labor and machinery helped. Men on the lowland pooled their machinery and labor to help farmers on high ground get their crops in. As soon as the water receded and the ground could be worked, all went together to help get crops into the lowland fields. As many as 26 tractors and outfits worked in one Illinois field at the same time.

Hundreds of tractors under water could not be used until reconditioned. The Army offered mechanics to help with this but complete mobilization of all local resources made it unnecessary to call upon the Army for this help. County machinery was used to haul farm tractors out on the road where they could be picked up by repair crews. Special labor-saving cleaning equipment was located and brought to strategic points. Extension agents, extension engineers, Army engineers, implement dealers, local mechanics, and many others cooperated in this campaign.

Needed labor came from every possible source: prisoners of war planted tomato plants in Johnson County, Ind.; at Vincennes, Ind., County Agent H. S. Benson enlisted 325 boys and girls from the high school to weed tomatoes; and Oklahoma townspeople answered agents' calls for help by volunteering to rebuild fences and remodel buildings. In Logan County, Ill., 24 businessmen—Rotarians, Kiwanians, and members of the chamber of commerce—took 2 days to canvass the entire city of Lincoln. They located 77 men with farm experience who would work after office hours and during week ends. In another Illinois county the agent and the local USES representative saved a strawberry crop by dramatic recruiting with a sound truck. A second truck followed and carried volunteers to the fields. The crop was saved.

Boy Scouts cut Delaware asparagus

■ Spring came as usual to Sussex County, Del., and found 1,000 acres of asparagus ready to be cut. Usually, about 300 additional laborers came into the county in time to cut the first asparagus and follow through with tomatoes, beans, and the other main truck crops; but this year at cutting time only 100 showed up. County Agent Frank Gordy knew that if the asparagus were wasted, the acreage of tomatoes and other crops greatly needed for the war program would not be planted. If they saw no prospect of harvesting, the farmers would not plant.

Something had to be done, so County Agent Gordy decided first to try schoolboys. He talked it over with Frederick Wellington, Scout executive for the Delmarva Peninsula, who carried the idea to a tri-State Scout meeting; and the Scouts agreed to see what they could do. The superintendent of the Wilmington schools was next interested and agreed to excuse 50 Scouts with an average of C or above in their studies from school for 2-week periods. Fifty Scouts were quickly recruited in Wilmington and vicinity.

Boy Scouts Set Up Camp

The next job was to convince the farmers that the plan was feasible. Some farmers with fields ready to cut felt that they were too busy and harassed to bother with a crowd of inexperienced schoolboys; but Harry Cannon, with 500 acres waiting to be cut, agreed to go 100 percent with any laborers who would begin work on his asparagus fields.

The local Bridgeville Boy Scouts set up their camp for the visiting Boy Scouts from Wilmington. The Scouts are supervised both in their work and recreation by two trained Scout leaders. A vacant house was turned over to the boys for a mess house; they lived in tents and started work at 6:30 a. m. With a rest period, they worked until noon at first but later worked a few hours in the afternoon, also.

They cut 40 acres a day at first, but soon were cutting about 90 acres a day, or nearly a quarter of the Cannon crop. Mr. Cannon wrote to Director Schuster: "Our experiment with the Boy Scouts is turning out beautifully. The boys are extremely happy, working about 6 hours a day, doing a good job, and I believe very comfortably housed. They prefer to live in their own camping tents; but we have provided showers, good toilet facilities, electricity for the camp, and a very nice house with refrigeration and stoves, in which they have their meals served; and all their work is right where they live. If the boys and the Scoutmaster want to work longer than 6 hours, the work is there."

At the end of the 2-week period, the first group returned to school in Wilmington, and the second group of 50 boys came out to the asparagus camp. Among the most skillful workers, 25 were chosen to remain and help to teach the second shift. Most of the boys are about 16 years old, though some are 12 or 13. Mr. Cannon agreed to pay the boys 40 cents and hour, the usual rate he paid his adult workers. The boys were soon cutting as much asparagus as the older workers and were doing it just as well or better, Mr. Cannon reported.

The success of the boy asparagus cutters is doing much to give local farmers confidence that their crops will be harvested if they will do their share in getting them into the ground. What H. L. Cannon says about his experience with the boys cuts more ice than any amount of talking about putting in your crops and depending on emergency labor to get them harvested, says County Agent Gordy.

One factor in the success of the venture was the active cooperation of a county labor committee of 13 farmers representing the different commodities grown in the county and the representative in the county for the United States Employment Service, the State department of public education, the Farm Security Administration, and the Extension Service. These men talked over the venture, agreed to try it out, and supported the plan in every way they could. Neighborhood leaders are also contributing to the solution of the labor difficulties by making personal contact with the more than 5,000 farms in the county and collecting the facts on where and when extra labor must be had. These leaders were given some training in collecting the facts so that they would be accurate and comparable in different sections of the county. The vocational teachers, both Negro and white, cooperated wholeheartedly in working with the boys until they learned how to cut. "Instead of a very few asparagus fields knee-high in Sussex, we might have had numerous fields," reported County Agent Gordy in telling of the experiences with Scout labor.

Soon after the Sussex experiment got under way, Ralph Watson, county agent of New Castle County, Del., met with his farm-labor committee to discuss the knotty labor problem of 15 tomato growers with 175 acres to be set and no labor available. They decided to ask the superintendent of schools of Middletown, Del., for help. One hundred and fifty boys and girls were recruited. They worked in crews of three, one carrying the plants, one dropping the plants, and one setting them in the soil. It took them 2 days to finish the job with the help of vocational teachers, county agent, assistant agent, and other public-spirited men.

Off to a good start, Delaware farmers looked a little more hopefully to their peak season which begins the last of June, finishing the asparagus and tomato planting, going to bean harvest, then wheat and hay. "We're going to do everything we can to get help everywhere we can," said G. M. Worrilow, associate director in charge of the labor program, and his able assistant, Frank Gordy.

"Now you have it," says County Agent Frank Gordy to a Delaware Boy Scout, who is doing his best to cut the asparagus so that none goes to waste in this year of war need.



Planning saves labor on fruit farms

HAROLD BROGGER, Research Planning Specialist, USDA

Harold Brogger is a member of the staff of the Department of Agriculture Field Office in Wenatchee, Wash., and has given special assistance in the solution of farm-labor problems in the fruit areas of the State. The field office has been established to coordinate the relationships and activities of farm families, rural and industrial organizations, and public and private agencies in connection with fruit problems in the Pacific Northwest. The Extension Service led in organizing grower land-use planning committees in the Wenatchee and Okanogan fruit area, which developed proposed recommendations for a long-range program to solve critical fruit industry problems.

■ Labor efficiency is not something that just happens. It is the result of careful planning and a thorough carrying out of the plans. A comprehensive program of improved orchard practices, community and district-wide orchard sanitation, and integration of business services, such as packing, warehousing, supplies, marketing, and production financing, were included in the long-range plans of the land-use planning committees in the Wenatchee and Okanogan fruit area.

In July 1942, the District Land Use Planning Committee approved a plan presented by its labor subcommittee to establish an over-all district farm-labor program. This was organized and carried out by the Farm Labor Supply Council which comprises LUP committeemen, large growers, public agencies, and businessmen. Coordination of local organizations and public agencies in dealing with mobilization of nonfarm people in the district, housing, transportation, and procurement of labor from urban areas, other out-of-district areas in the State, and from the Midwest were successfully accomplished by this program. Since December 1943, the educational subcommittee of the Farm-Labor Supply Council has been developing job training and studying and illustrating labor-saving techniques by means of slow and standard motion pictures in an effort to obtain greater productivity of labor and to save man-hours.

The lay-out of an orchard, the timing of operations, and the intelligent management of all activities in growing and harvesting a crop are powerful factors in influencing the final output of each worker on a fruit farm. What you do, when you do it, and whom you have to do it rank high as labor savers in the estimation of the educational committee of the Farm Labor Supply Council. Here is some tangible evidence:

The importance of tree spacing, for example, was not well recognized when many of the orchards were planted. As a result, trees in many orchards are too tall and frequently produce a low grade of fruit because of crowded trees. The tree fruit branch experiment station in Wenatchee conducted an experiment on reducing the number of trees from 54 to the acre to 27. During the first 2 or 3 years the 27 trees as compared with the original stand of 54 trees did not produce so many bushels of fruit per acre but the quality, color, and uniformity of size obtained resulted in a net return greater than that received in previous years. After a period, usually of not more than 3 years, production on a high-producing orchard with open planting will be equal to or greater in bushels per acre than with close planting. Approximately 40 percent less labor was required to produce a crop through harvest on the open planting than on the close planting, for the first 3 years after spacing. It is estimated that 75 percent of the growers in this district have carried out a tree-spacing program this year.

Cooperative Purchases Brush Shredder

A community cooperative of about 40 growers has purchased a brush shredder which has reduced the labor required to rake, haul and burn brush after pruning. On the experiment station, 72 man-hours were used in connection with the operation of the brush shredder as compared with approximately 120 hours needed for raking, hauling, and burning brush. The cost was $132, including per hour use of the machine as compared with the cost of $158 for raking, hauling, and burning brush, which includes a $2 an hour cost for use of the tractor and equipment.

In addition to the saving in man-hours, the brush shredder leaves organic material for use in soil building for which the Agricultural Conservation Program pays growers at the rate of $3 an acre. The operation of the brush shredder also diminishes the hazard to the cover crop which is experienced during brush raking by tractor and brush rake.

In pruning, man-hours can be saved by having the heavy cutting done by a skilled man, and the lopper work by an unskilled man. The exact amount of man-hours saved by this method has not been determined, but many growers are following this practice. Another practice that saves labor on pruning is to remove all tree stumps, which eliminates the necessity for trimming the stumps.

By proper timing of sprays and thoroughness in spraying, the number of cover sprays can be reduced. However, no experimental data are available on this practice, because relative conditions relating to weather and various intangibles make it difficult to apply any set of principles to all orchards and to all growing seasons.

Spray programs can be made less costly and in turn require fewer man-hours by an organized program of community-wide orchard sanitation, such as has been carried out in this district by the community land-use planning committees. This program requires a definite effort to remove abandoned orchards and clean up all sources where overwintering larvae may exist.

Better financing has enabled many growers to apply the best-recommended practices in insect control in contrast to former years when inadequate financing would not provide such funds to carry out an adequate program. Better prices have also had their effect on providing adequate funds for financing spray programs. An adequate spray program will also reduce the number of culls and, consequently, save time incident to their handling.

Townspeople To Help Harvest

Man-hours can be saved by proper arrangement of the crews, but this depends on the variable conditions in the orchards. Man-hours can also be saved in training men to handle their equipment and to employ a minimum amount of movement and effort. In cooperation with vocational agriculture and community land-use planning committees, the educational committee of the Farm Labor Supply Council has arranged to carry out a job-training program whereby orchard operators and foremen will train apple pickers. The output per worker is expected to be increased substantially by this program.

Man-hours consumed in thinning can be reduced by spending more time on pruning, such as pruning in more detail and cutting back pendent limbs, probably as much as one-third of their length or more. Experiments are being carried out in Oregon in regard to the use of toxic sprays. The sprays are put on in strips and at certain critical periods, which will have the effect of eliminating the development of a large number of blossoms. The flail method of beating off apricots, used to some extent on peaches, reduced the number of man-hours required to complete the same operation by hand.

Harvesting labor might be used more efficiently if, instead of having fancy and extra-fancy grades of fruit, a combination grade be used which would reduce color picking. Any reduction of color picking, whether by relaxing or an agreement on a combination

grade, would reduce man-hours in picking and facilitate handling of the fruit in the orchard. With a combination grade, growers would not tend to wait for color. Thus, the period of picking might be extended by a week or 10 days, providing fuller utilization of available labor supply and a better opportunity to save the crop, especially in the event of an early frost. From 12 to 20 percent of the man-hours used in packing and warehousing could be saved, according to estimates of packing and warehouse managers. The capacity of grading and packing facilities would be increased, facilitating more rapid intake of fruit from the orchards. In the event a price ceiling on apples is established, adoption of a combination grade might be advantageous, because it is expected that the price of this grade would approach the ceiling price, thus no loss to growers would be caused by eliminating the extra-fancy grade.

Finding farm help

CECIL FAUSCH, County Agent, Sibley County, Minn.

■ Sibley County is doing something about the problem of losing young men to the Army at the expense of farm production.

This "something" is cooperation between existing agencies in the county, and it has resulted in filling more than 300 farm jobs with men of farm experience or ability.

The keystone is the Extension Service, but it never could have been done without the help of the Selective Service Board, the United States Employment Service, county welfare supervisors, and—perhaps most important of all—many citizens' committees in the towns around here.

Last fall, farmers of the county became concerned over the number of boys leaving farms when drafted or to take jobs in defense industries. A conference resulted between the draft board, welfare supervisors, and employment service.

Out of this came an agreement to have the draft board turn over to the county agent the names of all 1–A men who had farm experience.

I wrote to each of these 1–A men, explaining that they were subject to Army duty because they were employed in nonessential work or were on farms where the number of units of production were not enough to justify their staying. Enclosed was a card, asking the man's family status and whether he would prefer going into the Army or moving onto a farm where his help was needed.

More than 250 replied that they were willing to serve their country by producing food. Their cards were turned over to farmers who needed help, and the men were employed.

This is how the plan worked: A young railroad worker was classified 1–A. He had had some farm experience. George Nelson who operates two large farms needed a hand. The boy was recommended to Nelson. Because Nelson could not accommodate both the young man and his wife at the farm, the young man went to work on the farm, and his wife lives and works in the city. Nelson says the young man is one of the best hired men he has ever had.

The welfare office looked up able-bodied men on pensions who might take part-time work, filling in for men who might be ill. Some who felt they could handle light jobs regularly were taken off pension lists for the duration. Elmo Downs of Blakeley hired a man over 65 for yard work.

Day laborers were put on full-time jobs through the help of businessmen in each of the towns. The men handling the job are: John Kiecker, Gibbon; Carl Hanson, Winthrop; Charles Strobel, Arlington; William Kroonblad, Green Isle; Allie Wigand, Henderson; Emil Albrecht, New Auburn; and the county agent at Gaylord.

The program now has been brought into line with the plan of Paul E. Miller, director of the State farm help program, tying in the loose ends. The county farm help committee is being assisted by trade center committees in placing men.

Ward Foster had needed a man on his farm near Gibbon all spring but did not know where to apply. After the program was under way, he came to me, and I recommended George Mast who was farming 20 acres—not enough to meet the unit requirements. Mast and his wife now are helping to produce crops and considerable livestock on Foster's 240-acre farm.

Day nurseries for children of harvest workers

During the summer of 1942, before crops were harvested, the growers who realized their need for more help worked through the Manpower Commission to request assistance in establishing nursery schools so that women could be freed to help with the harvest.

A committee was called of growers and heads of organized groups, including the Agricultural Extension Service, the County Welfare Department, WPA, PTA, and women's clubs. This committee selected one leader to delegate duties to different members of the committee, and in this way each group helped with the organization. Three nursery schools were set up giving all-day care which included three meals. School buildings were used for all three schools. WPA cooks and surplus commodities were available at that time. In two nursery schools, supervisors were paid by WPA; but in one, the supervisor's salary was paid by the growers, and that school was sponsored by the farm bureau. A very small fee was charged for each child.

The home demonstration agent met with the committees in an advisory capacity and at times visited the nursery schools to help with selection of equipment and to give suggestions in menu planning.

The nursery schools proved to be an effective means of freeing between 75 and 100 women for work in the harvest at a time when crops would have been wasted unless additional help had been available.

One story has come to me of a young man and his wife who had the opportunity to be crew bosses, provided that their two children could be taken care of in the nursery school. This woman was exceptionally capable and was the first woman chosen to act as a crew boss. Because she did not have the care and worry of her children, she was able to perform her duties as well as a man who might have held her position.

As a result of the success of these nursery schools in 1942, plans are now under way for the establishment of more nursery schools in the areas where the help of women will be needed in the harvest.—*Marion C. Burgess, home demonstration agent, Merced County, Calif.*

A close-up of the labor situation in northeastern South Dakota

The value of local examples in interpreting national situations is ably proved in these excerpts from a series of articles prepared by John M. Ryan, extension editor, South Dakota, and widely used by the press of the State.

■ By putting the entire family to work practically night and day, farmers in northeastern South Dakota think they can get all of this spring's crop into the ground; but it is going to be up to town people, high-school boys, and whatever supplementary labor is available to help get it harvested and threshed.

That seems to be the general opinion of approximately 30 farmers in Edmunds, Day, and Codington Counties.

By superhuman efforts, farmers in those counties are increasing their production of practically all farm products called for by the Government. They are making these increases despite the fact that a boy has left practically every farm to enter the Army.

In Edmunds County, corn acreage is increased 28 percent this year; oats, 36 percent; barley, 44; cattle, 6; sheep, 5; baby chicks, 104; spring sow farrowing, 65 percent; fall farrowings, 159; and flax acreage, 147 percent.

This increase of livestock and crop acreage is not being made by plowing up additional land but by putting land which previously lay idle into production this year. Decreases in rye, sorghums, millet, sudan grass, and alfalfa have also released more land.

How has it been possible to make these increases with so many boys in the Army? Take the case of E. L. Friedrichsen, a large operator in the southern part of the county.

Mr. Friedrichsen has two boys in the Army who formerly helped on the farm. Last winter the family reduced their ewes from 100 to 50, cut the cattle herd from 60 to 40, but increased the number of hogs. This year Mr. Friedrichsen planted his normal acreage with the help of his father, who is 77; his brother, Emil; and Mrs. Friedrichsen.

"The whole family gets up at 5 o'clock every morning, and we work until at least 9 every evening and hurry all the time," Mr. Friedrichsen said. "I don't believe we do quite so good a job of farming as we would if we had plenty of help but we just have to do it any way we can."

Despite his 16-hour day in which "I hurry all the time," Mr. Friedrichsen finds time to act as an Extension Service neighborhood leader and, as such, just recently completed canvassing his neighborhood in the war-bond drive.

He thinks that high-school boys would be helpful in solving farm-labor problems if they had some training. He had two boys last summer in threshing who were of little use when they first came out, but after a little training and patience they developed into valuable hands.

Reuben Kirschenmann, a neighbor of Mr. Friedrichsen, agrees that the high-school boys and other help from town would greatly assist.

"I can teach anyone to work on the farm if he is willing to work," he says. "The big thing is, he must be willing. I should be glad to get hold of anyone who wants to work, and I should appreciate anybody who tries to help me. Work on the farm with the modern machinery we have now is not hard."

Mr. Kirschenmann has reduced his farm this year by 170 acres; but another neighbor is now farming that part, so the land is not idle. He has 600 acres of small grain and 100 acres of corn which he is putting in with the help of one man. He has maintained the same number of livestock as last year with the exception of hogs. He has 17 brood sows this year—8 more than last year.

Girls Needed To Work in Homes

It would help to solve Mr. Kirschenmann's problem if he could hire a girl to work in the house. That would allow his wife to do some of the outside work that a town girl would not know how to do.

Another neighbor who also thinks that a girl to look after the house and the children would be enormously helpful is Gerald Ryman. Mrs. Ryman has always been a "home lady" taking care of the house, but this spring she has been helping with the lambing, which is practically a full-time job now. So far, they have not been able to hire a girl.

Mr. Ryman thinks that businessmen coming out from town are of great help to farmers during harvest and threshing; but the 30 miles he lives from Ipswich, 25 from Bowdle, and 15 from Roscoe rule out much hope for help in that direction.

The Ryman family is on the go from 6:30 a. m. until long after dark with the tractor at work in the field from sunup to sundown. The son, 12, and daughter, 10, assist in the house before and after school to help their mother who is busy out of doors. With the help of the children, the family have been able to milk as many cows this year as formerly.

A good example of a farmer who had this extra help during harvest last year is Frank Schwab, Edmunds County farmer. Last harvest, 24 men from Aberdeen came out to his place one night, and 12 men each succeeding

South Dakota's Byron Jones, a wounded veteran of World War I, always flies an American flag on his tractor. "The Old Flag means a lot to me," he says. He buys three new flags a year to keep one flying on the tractor.





By hurrying all the time from 5 a. m. to 9 p. m. E. L. Friedrichsen and his brother Emil are keeping their South Dakota farm producing while Mr. Friedrichsen's two sons are in the Army. Mrs. Friedrichsen and the father, 77 years old, each carry a man's full load.

night, until they had shocked 350 acres of grain. He lives 14 miles from Aberdeen.

"I don't know what I should have done without their help," he says. "They saved my crop for me. I paid them $177 in regular wages and was glad to because they saved my crop. I also paid the men who drove their cars extra. I tried to show them that I appreciated it."

Mr. Schwab is farming 600 acres this year, getting along with one hired man. Formerly he farmed 900 acres and always had two men. He has one son who is a ferry pilot in the Army and a daughter who is a member of the Navy WAVES.

He would like to hire a high-school boy in haying time, and believes that if he hired him early, he would have him trained so that he would be of value on the combine during harvest. He finds that high-school boys learn easily and quickly to work on the farm.

Byron Jones, who farms near Ipswich, is another man who believes that high-school boys and other people from town must provide much of the harvest help this summer. He is not one who believes that they are of little value. He says, "Whatever they do is a help to us."

Mr. Jones has made a 50-foot-wide harrow and uses a 14-foot disk and drill pulled together to speed up the work this year. Mr. Jones carries an American flag constantly on his tractor, buying three flags a year. He was wounded in France in 1918 and, as he says: "The Old Flag means a lot to me. I think it inspires me when I'm tired."

The Ipswich city schools have a "speed-up" program in operation which will allow high-school students to complete their work earlier, so they can get out and help on the farm. R. W. Dennis, superintendent, reports that 25 boys, including 8 or 9 town boys, are taking advantage of this program. Seventy-five percent of the 154 students in high school are from the farm.

Farmers are among the most ingenious people in the world. W. G. Long, who farms 7 miles south of Webster, is showing how farm-labor needs can be more evenly spaced over the year, solving a great many labor problems.

Mr. Long is planting 200 acres of corn this year, but he has the corn in five small fields so that it may be "hogged off, cattled off, and sheeped off" to save labor. He has the fields planned so that each unit can be hogged off separately without interfering with the remainder or making the building of new fences necessary.

He has also planned his small-grain crop so that the harvest will be spread out. His barley will be ready to harvest first, then his oats, then his wheat, and lastly his 200 acres of flax. Last year it all came at once, but he thinks he has that fixed this year. By this means, he believes he will save the work of 2 men during harvest.

He is building a bucker on an old truck to use in threshingtime to bring the shocks up to the machine, and thinks he can save the need of four bundle wagons in that way.

"No help is going to come to us right out of the blue sky," Mr. Long declares, "and we must solve a lot of our problems ourselves. Careful planning will solve a lot of labor problems which look hard now."

300 Scouts ready for work

"We have guaranteed our county agents the services of 300 Scouts, with all necessary field equipment and leadership, to help whenever and wherever they are needed in the food-production effort of this region."

That report was given by C. W. Woodson, executive of the Potawatomi area Boy Scout Council, to the Wisconsin Extension Service.

The Potawatomi area group, which takes in scouts from Waukesha, Dodge, Jefferson, and Walworth Counties, Wis., has also contacted employment service officials in Waukesha and Watertown and promised to help in any way those officials suggest.

Mr. Woodson believes that Scouts will be especially valuable in furnishing portable labor camps, with Scout leaders at work along with the boys. He said:

"We're keeping in particularly close touch with the Waukesha County agent, J. F. Thomas, and getting ready to help whenever he calls on us."

Oregon organized for action

1943 plans to meet a critical labor shortage are based on successful experiences in harvesting last year's crop.

The greatest acreage of farm crops and the largest livestock, milk, and poultry output in the history of the State was the record last year of Oregon farmers. More important, this record-breaking production was harvested and handled with almost no loss. These Oregon farmers faced all obstacles familiar to production and harvest in these war-emergency days. Perhaps the main obstacle, labor shortage, was more acute here and in other coast States than in many places, because the Pacific coast cities were then as now teeming centers of war industry. Aircraft construction and shipbuilding are at the top of a long list of war requirements. In addition, many huge cantonments and smaller military camps were under construction in the Pacific area. These buzzing factories and shipyards and construction camps, all with high wage scales had, by the spring of 1942, depleted the rural regions of their labor supply.

Early in the crop season, it was apparent that a crisis was developing. As the season progressed, unusually favorable for crop growth, the task ahead loomed even more formidable in its proportions. But in the end the harvests were secure. The problem was met. Cooperation did it. All Federal and State agencies and civic groups worked together to forecast needs, organize available labor supplies, to recruit labor from all available sources, and to implement its distribution to localities and enterprises where previous surveys and unexpected emergencies disclosed need.

Extension Organizes Field Operations

Procedure centered around the United States Employment Service, which had branch offices in the larger county-seat cities—22 in all. In some counties were branch offices outside the county seat as well—to account for 18 more. Serving as an overhead or coordinating group was the State Agricultural Advisory Committee appointed by the Governor. Committee members were nearly all farmers or food processors. Three or four members were representatives of public agencies. Organizing field operations was the task of the Extension Service. County war boards, county planning committees, chambers of commerce, the schools, and even churches assisted. The Farm Security Administration was active also and organized and maintained farm labor camps for itinerant workers to handle peak loads of crops such as sugar beets in Malheur County and the potato harvest in Klamath County.

The first step was to organize in each county a farm-labor committee of farmers which was a subcommittee of the agricultural planning committee already functioning in every county. This was done by the county agents and local representatives of the United States Employment Service under the general direction of the Extension Service farm-labor project leader who was collaborating closely with the State officials of the Employment Service. These farm-labor subcommittees, the county agent acting as secretary, served as the local contact in county-wide surveys to determine in advance the approximate number of persons needed in the various regions for different cultural operations from planting time through harvest. The Extension Service project leader on labor directed and coordinated these steps.

With results of these county studies at hand, labor needs as to volume, time, and place could be determined in advance; and plans could be made to meet the shortages in time for action.

Study Made of Labor Supply

Hand in hand with this determination of requirements, a study of the local labor supply was made. A State-wide listing of available womanpower was made, and an organization to bring it into effective use was set up. County committees were established and leaders appointed in each community. Women were registered with notation as to the time they would have available and the type of work they would be willing to do, with the understanding that they might be called at any time the emergency demanded. The State Department of Education cooperated by establishing a register of school children.

District conferences of county agents were held, attended by the farm-labor project leader. At these conferences, all phases of the problem and their methods of solution being developed were considered, and plans for coordination were outlined.

Members of the central extension and experiment station staffs cooperated with the farm-labor project leader. They assisted on the survey of labor requirements by determining the man-labor requirements for each acre and each animal unit of the important farm commodities, by operations and by months. This added accuracy to the conclusions following the county surveys of needs. With a substantially accurate forecast of needs by locality and season now established in the hands of the Employment Service and Extension Service, all interested agencies and groups were advised. The Employment Service, which held responsibility for definite recruitment, thus was enabled to work effectively with the county farm-labor subcommittees in meeting the deficiency situations as they developed.

When organization plans and procedures were under way, a series of district conferences of farm labor subcommitteemen was held in collaboration with the State and county war boards, the Employment Service, Selective Service, and the Governor's Advisory Committee.

Procedure to date and that in prospect were reviewed. Selective Service regulations were explained by appropriate authorities. Crop outlook statistics prepared by the extension project leader and the Bureau of Crop Estimates were presented. All labor subcommittee members in the State returned home fully informed on the entire program.

With this lone schedule of careful and extensive planning completed, the stage was believed set to supply labor to points in need. And so it proved. Details of the method varied in the different counties according to crops involved, time of labor deficiency, and local labor supplies available. In the big-scale wheat harvesting operations in the Columbia Basin counties, for instance, women could be of little assistance; whereas, in the fruit, truck crop, and cannery areas in the Willamette Valley, the help of women and young people saved the day.

The harvest was ready. Farmers needing hands appealed to the local Employment Service office where they were located, or, where no office was maintained, to the county agent; and help was forthcoming. A seasonal need for a very large volume of labor being in the forecast in a certain area, for instance, the Farm Security Administration was asked for a transient camp. A shorter peak, strawberry picking or green bean harvest, was at hand in another area, for example. In this case, the register of women, businessmen available for part-time work, and school children was used. Cities and small towns frequently closed business for certain hours, when all hands joined in the harvest. Bookkeepers, clerks, professional men, and even business leaders took time to pick berries, beans, and hops, and to work in the canneries. By their side, often, were wives and children, all contributing to the common cause. As fall approached, schools in emergency areas postponed opening until the harvesting situation was in hand.

Women and School Children Help

The school-age group was an important source of labor supply. In all, more than 42,000 school youngsters are included in placement records of the Employment Service. These records also show 35,500 men and 19,500 women placed on the State's 62,000 farms. These figures do not tell the story, however. Because the unified plan was accepted by so many organizations and the resulting State-wide understanding of

procedure, a blanket of authentic publicity covered the State. Newspapers, radio programs, and civic organizations spread the word, and the result was that much of the labor available contacted employers without registration and formal placement by the official agency.

Plans for 1943 already developed in Oregon call for continued cooperation and similar procedure on the part of the farmers and public agencies. Even less man labor is available for the 1943 harvest. But, because of the experience of last year, the organization methods should be even more effective; and there now seems little doubt that Oregon's crops will again be harvested.

Harvesting Alabama potatoes

Potato growers in Baldwin County, Ala., made good use of the wives and children of nearby Mobile shipyard workers in harvesting their 1942 crop. Many of these women and children were experienced field hands, having left farms to follow the father to better-paying shipbuilding work. During the rush season, these hands were transported to the fields each day.

The greatest disadavantage of this set-up was the fact that farmers who did not have available trucks for hauling labor had to wait until those who did had finished digging and picking up their potatoes. This meant that the man with the truck was in a position to profit by hauling laborers to the farms that made him the best offer. As a result, some potatoes were left in the ground too long. This year, plans are to organize a fleet of labor trucks with a public employee to dispatch them to farms having the most urgent need. This will provide more equitable distribution of labor and will help to prevent damage to potatoes that would result from late harvesting.

Illinois community meetings

Community meetings are called in Iroquois County, Ill., to devise ways of meeting wartime emergencies, report Dorothy Iwig and John E. Wills, district supervisors of the wartime educational programs. A central unit for the exchange of canning equipment and produce meets the need in most communities. Here the canning equipment in the county, the amount and kind of surplus produce, and the time it will be available are listed so that the fullest use can be made of everything. In several communities, women who have canning equipment are planning to work together on food preservation and to lend their equipment to other groups.

The men in the county are discussing pasture improvement and are checking all farm machinery. They are making suggestions as to the exchange of both machinery and labor in order to make the best possible use of available manpower and equipment.

Farm labor gaps being closed in areas of Illinois

■ Recruitment and placement of workers in three special crop areas of the State have touched off field activities in Illinois under the new national farm-labor program designed to furnish needed workers for 1943 wartime food and fiber production.

P. E. Johnston, State supervisor of the program of the Illinois Extension Service, says that eight major "fronts" have been laid out in the Illinois attack upon the problem. Of these, the one of most immediate urgency is the placement of labor in special crop areas.

First of these areas is the asparagus territory around Vermilion County, where a unit of the Victory Farm Volunteers has been formed.

Three hundred high-school students at Hoopeston and Rossville will be released from classes part of each day when needed and will work in the asparagus fields as victory farm volunteers throughout the cutting season. Supervising the volunteers in each field will be men and women instructors from the high schools who will be paid by the canners. Three canneries at Hoopeston alone have between 700 and 800 acres of asparagus which must be harvested and processed.

In another of the State's labor-deficit areas, the tomato and seed corn territory around McLean County, a program already is under way to recruit and place a total of 3,515 workers and a peak of 2,100 at any one time. These are the manpower needs estimated by the pea, tomato, and sweet-corn canneries and the seed-corn producers of the area. Working through the local farm-labor committee, townspeople, churches, schools, defense councils, civic organizations, and businessmen will cooperate in supplying the needed workers.

Similar steps are being taken in the strawberry region of Union and Jefferson Counties, another seasonal crop area where an immediate shortage must be met. Other labor-deficit areas will be organized in the same way when the need arises.

P. E. Johnston, as State supervisor, has on his staff W. D. Murphy, assistant State supervisor; H. L. Jepson, assistant supervisor, Victory Farm Volunteers; Mrs. Mary Ligon, assistant supervisor, Women's Land Army; and F. G. Campbell and L. F. Stice, district supervisors. In addition, Russell L. Kelly, farm placement supervisor of the United States Employment Service, will spend such time as is necessary at the State Extension office to coordinate the farm-labor activities of the USES with those of the Extension Service.

Michigan flying farm squadron

■ The Fowlerville, Mich., Commercial Club of 40 members started a plan in January 1942 to help farmers who were short of manpower and others who ran into such emergency problems as sickness.

Every club member was given an opportunity to indicate the particular kind of farming that he could best do. This information was recorded on his personnel card, and when farmers requested assistance from the Commercial Club "employment bureau" the best-qualified men were sent to the farm. Sometimes one man was requested, and on other occasions as many as five went to the same place to do the job.

The Commercial Club also registered volunteer persons not members of the club. These folks listed their particular qualifications to make it easy for the club to get the right help in the right place. About 400 store clerks, salesmen, bankers, businessmen, druggists, and other town men were registered as volunteer workers to relieve manpower shortages on farms around Fowlerville.

These men worked on holidays, evenings, and on other days when it was possible to give as little as 2 hours or as much as 12 hours. They helped farmers to plant their spring grains. They cultivated, operated machines, assisted in haying, harvested the grain, picked sugar beets, and did salvage work. In fact, some of the implement dealers in Fowlerville provided machines to do emergency work on some of the farms.

The plan became so well known that the Fowlerville volunteers were named "The Flying Farm Squadron." And it's the same for 1943.

Looking toward the crucial labor period

With half a million placements made, agents enter the busy season to recruit seven times that number

■ The peak harvest for the United States as a whole began in July and will continue through October. Extension agents have been getting ready for the big push. Labor files have been set up and labor assistants hired. The best plans possible in the short time available have been made. By July 1, the farm labor program was established and ready for business in 2,871 of the Nation's 3,075 counties which included all the agricultural counties in which a large number of seasonal harvest laborers are needed.

More than 6,000 county and community placement centers have been set up to assist local farmers in getting their help, and nearly a half million farm placements had been made up to July 1. Before the harvest season is over, about 3,500,000 workers will be needed.

Boys and girls, Victory Farm Volunteers between 14 and 18 years of age, are doing a fine job. During May and June, 138,000 of these young people had been placed on farms. Boy Scouts have done an excellent job in organizing groups to work on farms and conducting camps to house workers. Scout councils are on the alert everywhere to be ready for the emergency call from the county agent. Private schools, public schools, American Legion, and public-spirited persons are sponsoring groups of young workers.

Women from towns and cities are volunteering their services to help grow food to win the war. More than 60,000 women have been placed by county agents. North Dakota, for example has placed 1,770 seasonal women workers and 506 year-round workers. A high percentage of the town and city women in that State have farm background, and it does not take them long to get their hand in again.

Some of these workers will become members of the Women's Land Army, which is now laying the ground work for an organization that will train and place capable women who want to serve their country on the farm front. An excellent start has been made in training city girls by the Agricultural Institute of Farmingdale, N. Y., where the fifth training course of 4 weeks each began early in July. The spirit of patriotic service instilled into these women is producing workers with the will to succeed. Forty-five "graduates" are now working on farms in New York, Connecticut, and New Jersey. The University of Illinois and Virginia Polytechnic Institute also completed training courses in June.

Camps for women workers and youth are being established to harvest beans, tomatoes, and other vegetables in Maryland, New Jersey, California, and other States. Apples, grapes, and other fruit will soon have to be harvested; and some of the pickers will live in Scout camps, country clubs, schoolhouses, or summer camps vacant "for the duration," which are managed by the Extension Service. The patriotic spirit of service runs high at these camps. It is worth a trip to hear the singing in some of them.

Of the half-million placements made up to July 1, 400,000 persons were placed in their home States, and 90,000 were listed as interstate workers. The latter number includes foreigners brought into the country such as Jamaicans, Bahamians, and Mexicans, also migrants who normally follow the harvest season northward.

Strawberries and peas harvested in Tennessee

The farm labor-recruitment program of the Tennessee Extension Service is bringing relief to many farmers in their effort to produce another record food and feed crop.

An example of how much one farmer, John M. Carson, Tuskega Farms, Vonore, appreciated the help given to him by County Agent J. J. Parks, of Monroe County, in recruiting labor is told in a letter to Director C. E. Brehm.

Mr. Carson wrote that if it had not been for the quick action taken by the Extension Service in recruiting 17 men, he might have lost a part of the 150 acres of peas ready to harvest. He hopes to get enough men to carry out the 1943 program for the Tuskega Farms. They are growing 150 acres of lima beans and 200 acres of sweet corn for canning. Several hundred acres of field corn and small grains have been planted for feed. They feed all the vegetable byproducts to cattle and market about 300 head. They also have 50 brood sows which will produce between 700 and 800 pigs, which will finish to around 250 pounds each. They have a dairy herd of 75 cows and heifers.

A farm land army which reached a peak mobilization of 5,000 volunteers, saved the strawberry crop of Sumner County in May. This land army was composed largely of women and girls, who volunteered after an appeal for workers was made. Women, school pupils, family groups, and elderly men and women came from seven counties to help harvest the strawberries.

In past years, strawberry pickers in sufficient numbers meant merely a problem of recruitment by ordinary means. Usually, Sumner and adjoining counties had plenty of farm labor available to furnish the bulk of pickers. This year was different, as a shortage of pickers was obvious.

Director Brehm had already reached an agreement with the United States Employment Service, whereby the latter would set up offices in Portland and work in nearby counties. County agricultural and home demonstration agents worked with them so that early in May all preliminary plans had been made.

At first, 2,500 pickers were recruited. They were able to keep the berries picked as they ripened slowly; but when the berries began to ripen quickly, twice the 2,500, who braved a rainy day to pick the berries, were needed. Calls were sent to seven counties, and extra busses were leased. When busses and trucks arrived, totals of pickers were checked and assignments made at once.

Portland has quick-freezing plants, and these operated at capacity.

Portland berry growers have experienced one of their best years, the crop being from average to above. The State average is 60 crates to the acre, but there were plenty of patches in the Portland area yielding about 100 crates.

Director Brehm, who visited the area at the height of the picking, felt that the recruitment of labor from adjoining counties had worked out well. He said: "On women and children of older age levels will rest much of the responsibility for harvesting crops this year, and as long as the war is on. We are pleased with the way it has worked out in the Portland fields."

Oregon has labor radio programs

Neighborhood leaders in Oregon are having a series of radio farm labor programs directed toward them this summer over the State station KOAC. The weekly program, called the "Neighborhood Leader Question Box," is devoted to farm labor matters and is being broadcast at 12:45 p. m. each Tuesday from June 29 through July and August.

Leaders share the work

■ None of the Victory Leaders in Johnson County, Nebr., carries a multitude of duties, but the necessary jobs are completed. Division of the responsibility to help neighbors meet wartime problems is the answer.

One set of Victory Leaders is selected for a particular job, and these leaders complete their task of getting vital information to their neighbors. When another important wartime problem develops, another set of Victory Leaders is chosen. No one has to spend much time away from farm and home work.

Johnson County folks really had their first experience in tackling problems on a neighborhood basis back in 1939 when a land use survey of the county was made. One man from each 3-mile-square area in the county was invited to appear before the county land use committee, of which County Agent Lewis Boyden was a member, to give his ideas about land use problems in his particular area.

One result of the survey was a set of recommendations on crops and livestock, for areas of good, medium, and poor land in the county. Proof of the value of opinions expressed by the neighborhood representatives was shown when the committee's recommendations for wheat acreage were almost the same as those made later by the county's agricultural conservation committee.

The land use survey also gave an estimate of 2,000 acres of bindweed-infested land in Johnson County. This estimate brought home to many, for the first time, the seriousness of the bindweed problem in the county.

When work looking toward organization of a bindweed control district was started, the system of neighborhood representatives was used to inform people of the need for a district and the work of the proposed organization. These representatives were selected by a temporary committee and County Extension Agent Boyden. The district was organized in 1941, the vote showing approval of more than 90 percent of the landowners.

The land use survey also pointed to the need for soil conservation measures, and work for a soil conservation district was started. Again neighborhood representatives, or leaders, helped out and arranged for local meetings at which soil conservation men explained the operation of a district. When the referendum was held, 96 percent of the landowners voted for organization of a soil conservation district in the county.

Early in February 1942, Boyden called a meeting, with the endorsement of the county's Civilian Defense organization. The meeting was attended by representatives of 27 organizations in the county, including school officials, church groups, Farm Security, the county 4-H Club committee, vocational agriculture and home economics, rural women's organizations, American Legion, Triple-A, and others. This meeting was organized as a result of requests made by the many State organizations that mutual organization problems of the various groups be discussed in the counties so that each might work along the same line of thought as the other groups.

The organizations gave their approval of the Victory Leader system then being launched on a Nation-wide scale, and soon afterward Victory Leaders for each 3-miles-square area were named by Civilian Defense, the county war bond sales chairman, and the extension service. Each leader was asked to work with approximately 25 families. A Victory captain was named for each of the 11 townships in the county.

An extensive survey, covering use of improved production practices, such as sanitation for poultry and hogs, use of balanced rations, measures for preventing odors in milk, also the amount of machinery repair work done, and other matters closely connected with the war effort, was the first piece of work completed by the Victory Leaders. This survey was, and is, the basis for distributing much of the information sent out from the extension office, and also serves as a guide for discussion at meetings. As an example of the findings—balanced rations were used less in the central part of the county than elsewhere, indicating need for getting more information about such rations to the people in that locality.

Two of the Victory Leaders, Ralph Sugden of Sterling and Leon Hunt of Crab Orchard, covered a part of their respective territories by horseback when the weather became bad and the roads were very difficult to travel.

Victory Leaders arranged for meeting on the antiinflation program. Eleven businessmen of the county were trained by Boyden and A. H. Maunder of the Nebraska Agricultural Extension Service, and led the discussion at the various meetings.

Still another group of Victory Leaders tackled poultry problems. Each of them attended one of five meetings in which County Agent Boyden and Extension Poultryman Jack Redditt showed how to build 4-foot poultry feeders. Each leader built one of the feeders and took another home in knock-down form, assembling it later at a meeting held for his neighbors. At least 400 more feeders were built and used in the county as a result of this work.

Victory Leaders obtained pledges for $75,000 worth of war bonds.

Victory Leaders also worked on the Nebraska Victory Home and Garden program in the county, obtaining a total of 960 pledges. Although enrollments are not being taken in Johnson and other counties this year, the list from 1942 is

Horseback was the only way Ralph Sugden could get around to see all his neighbors on his wartime assignment as a Victory Leader.



the basis for sending out much garden information during 1943.

Fire-prevention cards were distributed by Victory Leaders in June. The survey to discover fire hazards quite possibly eliminated a number of potential fires, and the few blazes that did break out were quickly extinguished.

The important wartime problem of maintaining good health was attacked through a county committeeman who was appointed at the time the organizations attended the meeting called in February 1942. He was Rev. Louis Bittner. Largely through his efforts and those of County Superintendent of Schools Alton Wagner; Miss Eloise Fisher, who is Johnson County home demonstration agent; and Mrs. Willis Roberts, an immunization program for school children was started. A total of 1,700 children received immunization for common childhood diseases at five clinics held during May and the fall months. Members of women's project clubs helped at these clinics.

Backed by experience gained in a number of useful jobs, the Victory Leaders in Johnson County are today ready to work on any wartime problem that develops. *Published in the Nebraska Agricultural Extension Service News.*

Green help as the farmer sees it

■ Inexperienced boy workers constitute a problem which can be successfully solved by farmers. Such stories as these used in New Jersey and Nebraska given wide publicity will give many a farmer a good idea.

Need Patience and Understanding

Meet Charlie Davis. He's a 50-cow dairy farmer, he lives in New Center, and he's president of the Somerset County, N. J., Board of Agriculture. Charlie has had a lot of experience with "green help," particularly with boys from the cities. He says he's had good luck with these lads and believes farmers can train them to be very useful, particularly in times like these when there's a scarcity of experienced labor.

Now and then, like other farmers, Davis has had a boy who just wasn't cut out for farm work and who was so temperamentally unsuited to it that he couldn't be trained to do the job in a month of Sundays. But that's not usually the case. He says most of these boys can be trained and trained rather easily, particularly if they are youngsters with imagination (and most boys are), curious and eager to know what makes the machinery go around.

Charlie knows a few farmers who have tried "green help" and failed, but he thinks the fault has been with the farmers rather than the boys. It has been his observation that failure 9 times out of 10 resulted because the farmer lacked patience and expected too much of the boys. Furthermore any farmer who can't get along with the adults he hires is more than likely to have trouble with young boys, dairyman Davis adds.

As far as he's concerned, the key to the whole situation is patience. Don't expect too much of these youngsters. Don't ask them to do a man's job. Treat them as you'd treat your own son and as you'd like anyone else to treat him. Take time to learn the child and his make-up, for no two boys are exactly the same; and don't forget that it wasn't such a long time ago that you were a boy yourself! The farmer must be the boss, but he doesn't have to be bossy. There's a difference between the two.

That's the pattern Charlie Davis follows, and he's found that it works. You can't train a boy or a colt unless you're with him, Davis says. It pays dividends to stay with the boys you hire, work with them, talk with them.

Another thing Charlie stresses is this: A boy gets tired, and the best of jobs can become monotonous. It's a good idea to have the boys change jobs every 2 or 3 hours. It's the difference between happy, well-adjusted farm help willing to do and to learn, and dissatisfied, maladjusted lads who don't know how to make good.

Any boy likes companionship. Treat the lad you hire like a member of your own family. Have him sit at your table, share your food. Let him join your family circle in the evening, and talk with him. Let him listen to the radio, just like any other member of the family.—(Volunteer Digest, a publication for New Jersey neighborhood leaders, May 1943.)

How Our Boy Worked Out

Jack Parker, age 15, came to work for us about July 1, 1942. He was entirely inexperienced as to farm work. A hay stacker, a grain binder, or a corn cultivator was just so much metal and wood to him.

He was afraid of horses and cows and knew very little about them. For the first few days and weeks, he was not expected to do much except help the men repair fences and buildings or do chores. He learned by observing and then doing under supervision.

Because he was large and strong (180 pounds in weight, 5 feet 9 inches in height), he could help scoop grain at threshingtime and do many other jobs of like nature. He was eager to learn, and it was not long before he could harness a team of horses. It took him about 6 weeks to learn to milk a cow with ease; and our cows are Holsteins, giving on an average a pail of milk at a milking, so we thought he had done well.

At hayingtime, he learned to drive the "stacker team" and became a very good stacker team driver.

By September 1, he had harnessed a team of horses, hitched them to a hay mower, and mowed a field of alfalfa entirely by himself. He could chore—feed horses, hogs, and cattle, and could milk as well and as quickly as any man on the place.

During the school year, we have had him week ends and vacations. The transportation problem has been our biggest difficulty. One trip, either getting him to the farm or returning him must be a special trip of more than 20 miles. We have had no problems with the boy. He has conducted himself very well, being very obedient, very eager to learn and to help.

I think the main reason for our mutual understanding is his great "love" for the farm.

We have had no set arrangements. We pay what he is worth in comparison to our other hired man, and many times it is the same. We feel this coming summer will really tell us whether or not he will make good farm help. He has yet to master the tractor, but that will be his first assignment in his farm education this summer.

We feel that the most important thing is to be patient. The second important thing is to completely explain and then let them try it under your supervision. If they don't first succeed, let them try, try again. (Agricultural Extension Service News, May 1943)—Mrs. Wayne Foster, a Nebraska farm woman.

■ A training program to teach women and girls how to detect and remove potato plants with leafroll, mosaic, and blackleg was held in Maine potato-growing areas beginning late in June. This program is to help Maine's seed-potato industry to maintain present standards by assuring a supply of competent potato roguers.

A brisk recruiting pace is set by Missouri agents for strawberry pickers



■ Every acre of a $1,000,000 strawberry crop was picked in southwest Missouri this spring; and the growers there gave credit for the completeness of the harvest to the volunteer workers recruited by the Extension Service, most of them boys and girls from farms, towns, and cities in that section.

Strawberries are the first fruit crop to be harvested in Missouri, and plans for picking this crop had to be started before the President's signature to Public Law No. 45 had time to dry. The crop was representative of those that require for a short period a supply of harvest help far in excess of that ordinarily needed. The strawberry picking served as a test of methods for recruiting labor to handle such crops.

So, in southwest Missouri, with harvest less than a month away, a meeting was held, to which came representatives of the Extension Service, Employment Service, Farm Security Administration, vocational agriculture, and Agricultural Adjustment Administration. The problem was that of locating an estimated 6,500 pickers in addition to those that growers estimated they could obtain from their own families and those of neighbors.

The county agents' offices there were assigned the job of determining the needs of specific growers for pickers and the supply that could be obtained within the counties. The agents were also responsible for publicity. Placement of pickers was to be made by the agents and by the employment service office.

As soon as possible a widespread campaign was under way. County extension agents contacted civic and business organizations, civilian defense councils, the Y. M. C. A., and other groups. The Employment Service made contacts with the Boy Scouts and handled the problem of migrant labor coming in from outside the area.

Special newspaper publicity, radio announcements, and newspaper advertisements went out in connection with the program. Enlistment blanks were mimeographed and distributed to hundreds of homes in cities throughout that section. In this and other work, the new labor assistants in the counties were of great help to the agents in pushing the program.

Owing to cool weather and excessive rains, the strawberry-picking season was several days late. Growers anxiously watching their crop ripen worried about getting enough pickers to harvest the berries. But when the crop ripened, the young people of that area, including those recruited by the Extension Service, moved into the fields and began gathering the luscious fruit.

Some of the boys and girls hiked to the fields, some rode on horseback, others came by regular bus, others by school bus, and some drove private cars. Most of them came out for a day's picking and then returned home at night. However, 180 Scouts from the MO-KAN-ARK District set up a camp near one of the school buildings, which was made available for them and started helping, although many never before had picked berries.

Novices Soon Gained Experience

Tired backs and stained and sunburned faces and arms put in their appearance as the work got fully under way. For a period of 3 weeks the pickers bent to their task. Most of the novice pickers soon learned to pick rapidly, an incentive being that they were paid on the basis of boxes picked.

However, the important thing was that the strawberry crop was saved. The boys and girls felt that they had done something toward supplying an important fruit to help fill food needs. Most of the time, the available supply of pickers ran somewhat ahead of the need. This was due to a reduced crop and to the good job done in recruiting pickers.

Some 250 carloads of the tasty fruit were sent rolling from the strawberry area, and many additional truckloads were moved to cities and army camps.

North Carolina neighbors work together

"We farm folks are just getting back to where we were a long time ago, and we like it," is a comment made to County Agent W. D. Reynolds of Robeson County by a group of neighborhood leaders who were in to discuss the local farm labor situation. "Our farmers are having to live with and for their neighbors; and by helping each other out with the various shortage problems, they are beginning to know their neighbors better," the local leaders continued. Robeson farmers are solving their labor situation by this neighborly cooperation, Mr. Reynolds reported.

Albion, N. Y., high school students to work on farms

Setting a pace for other youth, 388 boys and girls out of 450 in the Albion High School have made arrangements for summer work, largely on farms and in canneries during their summer vacation.

Many of these high school students come from farms in this rich agricultural region. The registration shows that 62 girls and 66 boys will work on their home farms.

A survey of the summer wartime work planned by Albion High students, under the direction of William Sherman, teacher of vocational agriculture, shows the following: Canning factories, 28 boys and 60 girls, total, 88; home farms, 128; other farms, 16 boys and 21 girls, total 37; unassigned farms, 41 boys and 62 girls, total, 103; defense plants, 5 boys and 13 girls, total, 18; stores and restaurants, 3 boys and 2 girls, total, 5; miscellaneous jobs, 4 boys and 5 girls, total 9.

Boys and girls not assigned to particular farms plan to work as a "flying squadron" under the direction of Mr. Sherman, and move from farm to farm for whatever work is ready. Already, they are called "Commandos." They will account for "a powerful lot of work this summer and fall," declares Mr. Sherman, as his schedule already takes care of almost all their time.

Kansas needs women to help in farm homes

In Kansas an appeal has gone out for townswomen and high school girls to make that patriotic decision to help in a farm home this summer. An applicant for work in a farm home is asked to check the type of work she is willing to do—canning, gardening, laundering, mending, harvest meals, general housework, child care, or poultry.

Women and girls are asked not to forget the farm woman and her increased war responsibilities when they plan their vacation and week ends. It may mean some sacrifice for an office worker to give up her vacation and spend it helping on a farm, but wars are won through sacrifice and self-denial. Townswomen who were brought up on a farm or who have left the farm only recently are particularly urged to give their spare time at the farm front. Wives of retired farmers can easily make the transition back to the farm kitchen.

Labor groups come to aid of Kenosha farms

Following a pattern they set a year ago, the workers of Kenosha, Wis., will come to the aid of their rural neighbors through the whole 1943 crop season, and pledge that not a pound of food will go to waste in this important fruit- and truck-crop area.

Last year's program started when Mexican workers, who had helped with truck crops and were being depended on for apple-harvest help, left before the fruit was ripe.

W. E. Thompson, who has some good-sized commercial orchards, was one of several farmers who tried vainly to get help. Then he mentioned his predicament to a Kenosha committee, made up in part of city employees and representatives of labor organizations. He was told to get ready for pickers and was promised a crew.

"The next day, along came half a dozen city firemen and a number of workers from two of Kenosha's factories," reported Mr. Thompson. "Quite a few of these men brought their wives, and soon the fruit was rolling in faster than we could haul it."

With the apples in, the crews broke up to go on to other farm projects.

The Kenosha experience is a perfect example of the fine town-country cooperation a healthy community must display, in the opinion of Dean Chris L. Christensen of the Wisconsin College of Agriculture.

"Farmers and city laborers worked side by side. Workers got a better understanding of rural problems. Country people, on the other hand, found they had sincere city friends upon whom they could depend. These things are almost as important as the fact that much-needed food was saved," the Wisconsin agricultural leader explained.

Texas farmers get help from the people of Dallas

By the middle of June, the farmers of Dallas, Tex., were getting help to save their farm crops. After a state of emergency was declared to exist in the farm labor market, the county commissioners' court granted a full-week paid holiday to road and bridge employees so that they could work on their own farms and those of their neighbors.

A commercial firm also answered the appeal from the Dallas County farm labor committee which is working with County Agent A. B. Jolley and Manager Ben Critz of the Dallas Chamber of Commerce in an effort to get contributions of farm labor from city business firms. This particular firm is furnishing 20 farm-experienced employees every Saturday on full pay to help get the job done. In June, these volunteers helped to harvest the oats crop.

Blue-denim- and khaki-clad Dallas members of the Texas State Guard invaded Dallas farms in June to prove they were ready to answer with action the appeal of farmers for labor to save their crops. Guardsmen, bankers, accountants, car dealers, and attorneys detasseled corn for cross-breeding before harvesting, and chopped cotton.

County Agent Jolley said that in addition to Texas State guardsmen who volunteered for farm work, there were almost 25 high school and grade school boys from the city, along with a number of persons who worked on county farms.

Emergency workers help harvest second largest crop in history

■ As the harvest season reaches its peak and American farmers prepare to reap the second largest crop in history, county agents and other extension workers are intensifying the campaign to recruit United States Crop Corps workers for meeting emergency labor demands.

That this source of farm labor is really coming to the rescue is indicated in results of the survey compiled from August 1 reports from the 48 State extension services. This compilation shows that 600,000 placements of U. S. Crop Corps workers were made during the month of July. Including those made prior to July 1, a total of 1,100,000 placements have been made since April 29, 1943, when the passage of Public Law 45 resulted in the Extension Service's being given major responsibility in the farm-labor program.

This number of placements included 500,000 intrastate farm workers, 50,000 out-of-State domestic workers, and 60,000 foreigners.

Of the total placements made during July, 310,000 were men, 110,000 were women, and 180,000 were boys and girls under 18 years of age.

The August Farm Labor Report of the Bureau of Agricultural Economics estimates that about 11,000,000 persons were working on farms in the United States on August 1. By October 1 this farm force is expected to be up to 11,750,000 workers, an addition of 750,000. As this estimate is based on full-time experienced farm workers, however, several times this number of Crop Corps workers may have to be mobilized to meet the needs.

Already several farm labor crises have been met and successfully overcome. The Kansas wheat harvest, which presented a big problem 2 months ago, was completed without appreciable loss of the State's 150,000,000-bushel crop—one-fifth of the Nation's wheat supply. This was accomplished when thousands of emergency volunteer workers pitched in to do the jobs formerly handled by experienced hands.

The peanut area of the Southeast is another place where a labor shortage developed in August, with the digging and stacking of the largest peanut crop in history. For example, in Americus, Ga.—in the heart of the peanut belt—the stores closed 1 day a week during the latter part of August to allow city people to go to the farms and help handle the peanut crop. Elsewhere in this issue will be found stories of how the farm-labor problem is being met in all parts of the country.

These stories show the results of good local mobilization efforts. County and community leaders are helping with the program in many areas, and in numerous small towns assistance is given by civic groups and other local organizations.

The farm labor problem is not yet licked, but it *will* be solved if present efforts are continued in recruiting and placing available workers. City people have indicated their willingness to help harvest farm war crops. On the other side of the picture, farmers have shown an increasing willingness to use emergency volunteer labor from the towns and cities.

No one should expect Crop Corps workers to be as efficient as experienced labor. However, there is a job to be done, and volunteer workers are ready to do such an important war job as harvesting the crops.

A WOMEN'S LAND ARMY TOUR through the Northeast would strengthen anyone's faith in the ability of the American people to meet their problems. Thousands of city women are working in orchards and vegetable fields for the first time, picking apples, peaches, or tomatoes in the hot sun for 8 to 10 hours daily. They are college girls, school teachers, business girls on vacation, and professional women who surprise the farmers with their ability to "take it" day after day. The farmers like their intelligence, their determination, and their spirit. They say: "The best greenhorns I ever had"; "I don't know what we should have done without them"; or "I don't know about women farm workers in general, but the girls I have are exceptional." Such camps as Pitman, in New Jersey; Mil-Bur, Maryland; Southington, Connecticut; or Lubec, Maine, dedicated to war service on the food front, are an inspiration.

THE WLA TRAINING COURSE for year-round workers at Farmingdale Agricultural Institute, Farmingdale, N. Y., is now being sponsored by the States of New York, New Jersey, Pennsylvania, and Connecticut, which recruited the women for the September session. The 4-week course gives some training in poultry, dairy, and general farm work, besides conditioning the women for hard farm work. The 45 graduates now working on farms are making good. Their work and their spirit are a credit to the Women's Land Army. These pioneers are setting a high standard for those who follow them.

Haying in a hurry

Sixty-three businessmen and farmers from the Montezuma community in Poweshiek County, Iowa, recently put 25 tons of hay into the barn on the farm of Harry Mathes in 1 hour and 15 minutes. The hay was baled, and they did the hauling with 14 trucks and pickups. Most of the helpers previously had signed up with the U. S. Crop Corps and expressed their willingness to help with farm work in emergencies.

The emergency was real because Mr. Mathes had fractured his leg when a horse fell on him. Although his two daughters and his son did most of the farm work after the accident, they were handicapped by wet weather. So the use of these emergency volunteer workers saved the hay crop.

"Sure, we'll use Peddie boys again"

New Jersey Private School Has a Victory Farm Volunteer Corps That Spreads Satisfaction.

■ Scattered throughout New Jersey are farmers who swear they'll never have another high school boy on the place as long as they live. And they feel they have good and sufficient reason for that attitude.

Farmers around Peddie School in Central Jersey feel differently about it. Take Kelsey Booth, for example. Booth is a general farmer who milks a herd of cows, keeps a few chickens, and last year had 35 acres of white potatoes, 30 of soybeans, 25 of rye, 12 of corn, 10 of hay, and 12 of wheat—a total of about 124 acres in cultivation. Victor Booth, an only son, was in the Army. Here's Booth's story as told to Frank Knowles, extension economist:

"When Peddie came along with its offer to let some of its boys help us farmers, I jumped at it. I always liked boys anyway; and when I learned that these lads from Peddie were to be led by one of their teachers, I was perfectly willing to sign up for a dozen to 15 boys. I figured that these boys—they were about 14 to 17 years of age—could be taught to do the work of the 6 or 7 adults I needed.

"The boys were green as grass at farm work when they first came here. Every one of them was city-raised. Some were sons of lawyers and other professional men, and they had never done anything like farm work. One boy even had a chauffeur and somebody else to look after him, but he and all the others were made to feel that they were helping to win the war by working for me. That's what their leader, the English teacher at Peddie, and I kept in front of them all the time.

"I never saw a man who could handle boys as that teacher did. He was with them every minute during the whole summer, and I never heard him holler at them once. He played with them, worked with them. He settled their arguments and differences fairly but firmly. The boys thought the world of him, and I soon saw that it was best for me and for the boys to work through their leader. Of course I tried to be nice to them. That's one of the secrets of working with boys—be friendly and treat them as well as you would your own boy.

"These boys were keen, and they had a million questions every day. Some of them sounded a bit funny at times, but I made up my mind I was going to answer every question they asked me, if I knew the answer.

"We potato growers ought to be thankful that Peddie is organizing a program to let some of its boys work on farms again this year. It helps us farmers, helps the Nation to get needed food, helps the boys, too. I'll bet those boys who worked on farms last summer will never forget the experience. It was healthful for them, too. At first hardly one of them could lift a 100-pound bag of potatoes. Before the season was over, every one of them could toss a bag of potatoes almost anywhere he needed to. And when we saved the soybeans—boy! They were seasoned veterans and did a fine job.

"These city boys who work on farms take away with them an appreciation of what farming is, and that's something to chalk up in favor of farming and the farmer's problems.

"Mrs. Booth and I gave the boys a pint of milk apiece every day to have with the lunches they brought with them from Peddie. Sometimes Mrs. Booth would make them a big pot of soup. And one night I got about 200 ears of good sweet corn ready, and they had a corn roast right out in the yard. Well, sir, I never saw anything like it. About 15 boys ate so much of that corn you could almost see it running out of their ears! They won't forget that roast as long as they live.

"And that brings us to some large 'don'ts.' Don't expect a boy to do a man's job. Don't expect town or city boys to do farm work without being shown how. Don't put boys at any job without an adult leader or supervisor whom they respect. Don't keep boys at the same job too long; vary the work. Don't fail to try to answer their questions, even if some of them sound silly. And don't be hard on the boys. Handle them as you would your own, and give them a treat once in a while.

"Yes, I'm going to use boys from Peddie this year. I've got more potatoes—45 acres now—and other crops they can help to harvest. The Army has given my son, Victor, an honorable discharge to help run this 160-acre farm. We're producing food for Victory—food Peddie boys are going to help harvest."

Success of the Peddie School Victory

Boys from the Peddie School, supervised by their own teachers, made a good record for themselves as pickers in the central Jersey bean fields.



Farm Volunteer Unit was not an accident. Peddie School is a famous old boys' preparatory school, and the authorities know how to handle teen-agers. Don Rich, who supervises the farm labor project, is a member of the school staff, and he works hand in hand with the farm labor committees of the boards of agriculture in Middlesex, Mercer, and Monmouth Counties—the counties where the boys do their farm work. He has a special advisory committee composed of the three county agents and J. C. Taylor, State supervisor of emergency farm labor for the Extension Service.

This year the VFV unit numbered 110 to 115 boys throughout the season, which began June 14 and was scheduled to run through Labor Day. Boys were admitted on application from their parents, applications being accompanied by a $5 registration fee. The minimum age is 14 years. Boys are charged a dollar a day for board and $4 a week for room, which includes laundry services. They have the use of recreational facilities at the school—swimming pool, billiard and ping-pong tables, tennis courts, reading lounge, and ball diamonds.

The day begins at 6:15 a. m., when the boys are jarred out of sleep by a gong. They dress, make their beds, and are in place at the breakfast table by 6:30. Breakfast is substantial, including fruit, eggs, cereal with cream, and plenty of milk. Then the boys fill their lunch boxes and run for the "gym" where they change into their work clothes, load onto trucks, and go to the fields at 7.

They get back about 5 or 5:30 p. m., get out of their sweaty clothes, duck under the showers and take a refreshing swim, then into their clean clothes for dinner at 5:45. No dowdyness at the table, either. Coats on, if you please, and hair neatly combed. No loud talking. And when the bell rings for an announcement, immediate and profound silence results. The boys aren't suppressed, but they have been taught discipline.

Dinner is an ample, well-cooked meal at Peddie School, and well planned from a dietary standpoint. Service is simplified by having the boys take turns waiting on table.

After dinner the boys play games, write letters, or go to the show. The "bank" is open at that time so that boys can deposit their earnings in a safe place. All must be in their rooms by 9:15 with lights out at 9:30.

When they're in the fields the boys are closely supervised. Rich refuses to put out groups of more than 8 or 10 boys on a farm without a field supervisor approved by the school. The school staff consists of Rich, a farm supervisor who looks after placement of the boys on farms and whose job it is to keep them all busy, an assistant supervisor, a nurse, and 5 field supervisors who also serve as hall masters at night.

The boys are not getting rich, but those who work hard will come out at the end of the season with a nice "chunk" of spending money. And most of them are working hard. Those who soldier or cause trouble are weeded out in a hurry. A long waiting list of boys eager to get into the unit has enabled Rich to send the undesirables home and replace them with others. This knowledge, that they'll go out on the next train if they don't live up to the rules, has been a big factor in maintaining discipline.

The boys have been handling all kinds of farm work. Four of them work at the Hightstown Cooperative Auction Market, hustling eggs and produce around; several at a large dairy farm. They have made hay, shocked wheat, driven tractors, picked beans, tomatoes, and potatoes, harvested fruit, and everywhere their record is good. It's true, however, that they do better on jobs giving them a variety of work than on monotonous occupations such as picking beans. If you've picked beans all day in a hot field, you won't blame the boys for preferring general farm work.

Sundays were somewhat slack, so Rich and his supervisors got 100 families in Hightstown, where the school is located, to agree to "adopt" a boy. As a result, boys who aren't working on Sundays are invited to eat with the families.

Experience with the Peddie School project has convinced J. C. Taylor, supervisor of emergency farm labor, that a boys' prep school is an ideal place for Victory Farm Volunteer units.

Working instead of waiting

■ Salt Lake County, Utah, is now in the heart of an industrial area where numerous opportunities beckon to farmers to leave their fields and corrals and join the ranks of industrial plants. County Agent Martineau knew this long before the 300 pea growers in his county received their orders to cut this necessary war crop. Furthermore, he did something about preparing for the day when viners would have to be manned to shell the peas from the pods—and manpower is exceedingly scarce. He called in Joseph E. Blake of Bennion, chairman of the county farm labor committee, and the organization meetings were under way. These men reported 100 percent cooperation among the growers approached, or a sign-up of more than 200.

Here's the Martineau plan, and here's how it worked: The 200 growers were organized into 8 groups. Each group promised to work 9-hour shifts at the viners when the peas were ready to be harvested. This would enable the farmer-operated viners to run 18 hours a day, and each group would be allowed about half a day to get its peas cut and hauled to the viners. The canning companies that owned the machinery and equipment for caring for the peas consented to pay each farmer 70 cents an hour for all the time he put in at the viner. That meant the farmers could collect pay for the time they ordinarily would wait for their turn at unloading. It also meant that the loads were rushed through more rapidly, thus assuring the farmers the best grades for their peas. The farmers were intensely interested in good grades, because good grades mean more dollars a ton. Shelled peas are graded on the basis of a tenderometer test; and the quicker they are shelled after being cut, the better they rate. More interest also was taken in the grading, because farmers were there to check from time to time.

Mr. Martineau has figured that during the pea harvest the 200 growers who subscribed to his plan put in 2,250 man-days for an extra income of $14,175; and that amount does not include any part of the extra pay they received for their better grades of peas, which resulted from more expeditious handling of this perishable crop.

In the preliminary process of taking care of the peas, the farmers did all the work except grading and managing the viners. They were paid for the time they put in after they arrived at the unloading stations, except when they were assigned to do the stacking of the vines; but the vines will go back to the farmers, so they couldn't expect the company to pay for this phase of the processing. Vines, which run about 3 tons to 1 ton of shelled peas, are used for livestock feed. Because of the apparent feed shortage in Utah this coming winter, the growers took extra pains to see that all vines were saved.

This is one example of how farmers are meeting their labor problems—just another application of the little red-hen philosophy.

The crop was harvested

An early start plus organization recruits 500 farm workers in Falmouth, Mass.

■ For many years the residents of the small village of Falmouth, Mass., between 4 and 5 thousand population, have been more interested in the trade of summer visitors than in the important industry of strawberry growing throughout the township, although 150 to 200 growers in the township produced about 400 acres of strawberries in 1943. Very few, if any, of the local businessmen realized that strawberry growing was a major enterprise in the vicinity.

Pickers for the annual harvest had been recruited by the growers from surrounding cities—Fall River, New Bedford, and others. The growers recruited, transported, and paid these out-of-town laborers, without any regard whatsoever to the local people. This type of help disappeared almost overnight when the war started.

Obviously, something had to be done if the berries were to be harvested and put on the market, so County Agent Bertram Tomlinson started about 2 months before the season began to recruit 1,000 pickers.

Mr. Tomlinson first got in touch with the chairman of the local board of trade.

Harvesting Committee Appointed

The chairman agreed to appoint a strawberry harvesting committee, made up of the people in the community rather than of the growers. This committee was made up of the local postmaster, chairman of the town's agricultural association, secretary of the board of trade, and several other men and women representing various local organizations. Under the guidance of Mr. Tomlinson, the committee considered itself a sort of manpower commission to solve the problem of obtaining pickers for the strawberry growers.

Further assistance came to this unique and effective organization from Dr. Edmund deS. Brunner, rural sociologist of Columbia University and adviser to the United States Department of Agriculture. He was appointed emergency farm labor assistant by the Barnstable County Extension Service. Organization of this committee was but the first step in solving the problem. Subcommittees were appointed to handle publicity, transportation, school posters, and records for recruitment.

A publicity campaign made the people of the village of Falmouth strawberry-conscious. Articles regarding the seriousness of the situation appeared in the local newspaper and in other papers circulated in this area. Several circular letters, prepared by Mr. Tomlinson, were distributed wholesale by mail carriers to every family in the community. These letters emphasized the shortage of manpower and that the only way the crop could be harvested was by the full cooperation of local people. The food value of strawberries was stressed, and it was pointed out that to permit the fruit to rot on the vines would make a further shortage in our total food supply.

Several meetings were held with the local school teachers to acquaint them with the situation—one way to pass on to the boys and girls in school the information that pickers were needed.

The subcommittee on posters got in touch with the art teachers in the various schools and offered prizes of war stamps to boys and girls for the best posters on strawberry harvesting. A total of 168 posters was submitted. The best of these from each grade were placed in the windows of various merchants in the village. Some of the posters were very creditable and attracted considerable attention. Furthermore, they helped to impress the boys and girls that strawberry picking was their job in helping out in the war effort.

The publicity committee obtained a contribution of $50 from each of the four commission men who handled most of this fruit on the Boston market. The money was used to run full-page advertisements of a patriotic nature in the local papers just previous to the beginning of the harvest season. A large sign, 12 by 4 feet, requesting strawberry pickers was made and placed in front of the community hall. Announcements over the radio and at meetings of the various organizations in the community and personal contacts were used.

The county agent met with the growers to discuss picking problems. The first and normal reaction of these men was, that "We just can't use this type of help." When they were informed that no other help was available and the only way to get the crop picked was by using this inexperienced help, they began "to see the light." It was emphasized that they must be patient with these people, take considerable time to teach them just how to do the job, and do as much supervising as possible. At this meeting it was also agreed among the growers to pay 4 cents a quart for harvesting. This was the highest flat rate ever paid in the community, but the growers felt that, as the outlook for prices of berries was good, 4 cents would be satisfactory.

In this whole matter of recruiting local help to harvest this important crop many problems were involved. Most of the growers were relatively small producers and unaccustomed to handling large or difficult enterprises. Also, the majority of them were Portuguese and did not understand the English language very well. Many of them spoke in more or less broken English.

Committee Aids in Financing

In past years, the tickets given to the workers for each basket picked had been cashed at the end of the season. In 1943, this would hardly be possible because some workers did not pick through the whole season and therefore would desire their money immediately. Some farmers did not have cash enough to pay off all the pickers at once because they had not received their returns for the berries shipped. The harvest committee assisted in solving this problem by having some of the commission men underwrite the cashing of the tickets.

Another problem was, that the growers were very indefinite on the number of pickers they would want for any one day. This made it hard for the central office, which was doing the recruiting of workers. The problem was overcome somewhat by checking and rechecking, by use of the telephone, and visits just before the pickers were sent out to the farm.

A few days before the actual picking started, the emergency farm labor assistant and an interpreter made a careful survey of all the growers in the township. This was an important part of the working out of the daily plan of supplying pickers. These men obtained from each grower his estimate of the number of pickers he would need.

People from practically all walks of life in that community were recruited to help in this important enterprise—Boy Scouts, Sea Scouts, school teachers, boys and girls, society women, stenographers, wives of Army officers and of businessmen, college students, sailors, soldiers from the Antiaircraft Division and Amphibian Engineer Corps, and students from the Oceanographic Institute. This group totaled more than 500 who had never before picked berries. The best estimate obtainable is that there were only about 300 experienced pickers.

Organizing for the harvest in Smith County, Tex.

■ Smith County's farm labor program quickly got past the talk and committee stage. In less than 3 weeks' time it could be expressed in crates of berries and bushels of beans.

Close cooperation among growers, buyers, canners, and townspeople especially, saved the berry crop. That meant Smith County farmers received about $3,000,000 which might easily have slipped from their fingers if the unpicked berries had fallen from the vines. It meant, too, that the fruit of 6,000 acres was saved to replenish Uncle Sam's wartime pantry.

And, what's more, it made people aware that if they could save blackberries, they could save peas and tomatoes and sweetpotatoes when the time came for everyone to lend a hand.

In the main, it was town and city people who furnished the necessary labor. Mayor Leon York of Lindale, a village of 820 people, set the pace by getting all the business firms to close on Tuesday and Thursday until the crop was harvested. Tyler, with a wartime population close to 40,000, recruits about 400 volunteer laborers daily; and the city fathers have agreed, "We'll close this town as tight as Dick's hat band any time the situation gets acute enough."

Saying that townspeople, in the main, have done the job should not imply that others haven't contributed. Farm people, whose working hours compare with those of soldiers in combat, have carried on with amazing endurance. And a few migratory workers who follow the harvests have pitched their tents and parked their trailer houses in the hills around Lindale. But where there previously have been 600 of them, this year there are only a third as many.

The man who is a master at obtaining cooperation is hard-working County Agricultural Agent C. R. Heaton. And he has been blessed with wholehearted assistance from his coworkers: Mary Sitton, county home demonstration agent; L. M. Hendley, assistant county agricultural agent; Fay Croslin, assistant county home demonstration agent, and the two Negro county extension agents, B. J. Pryor and Hattie G. Sneed.

Often 75 percent of the volunteers are Negroes, a higher percentage than the Negro population ratio. Mr. Heaton says that's indicative of the fine job done by the county's Negro agents.

When the campaign got under way, the Tyler papers, the Courier-Times and Morning Telegraph, carried stories daily on the need for farm laborers. The local radio station, KGKB, used a 15-minute Country Gentleman transcription on the labor program once a week. Spot announcements were given at intervals throughout the day. And the cooperative sheriff released a statement that he would arrest for vagrancy any able-bodied persons not at work. The Negro Ministerial Association used its own educational methods with excellent results.

Meanwhile, OCD block leaders in Tyler began a farm labor survey in the city which soon should be of added value in locating and recruiting workers. And Clifford P. Edwards and J. A. Stevens of the USES were showing the ropes to County Agent Heaton.

An individual case of how townspeople have saved the day will illustrate the simplicity and success of the program:

One Saturday in May, Mrs. J. K. Bateman, wife of a prominent dentist in Tyler, Tex., read in the paper that berry pickers were badly needed. She went to the telephone and offered her services to Mr. Heaton. He assured her that her services would be welcome and agreed to inform her later where she might go to help.

At the county labor meeting that same afternoon, Mr. Heaton remarked that a prominent Tyler woman had offered her services. Up popped Mrs. C. L. Duncan of the Hopewell community, member of the State Land Use Planning Committee and chairman of the Smith County Home Demonstration Council, and announced that she would like to hire that first volunteer. And, furthermore, she hoped the Tyler woman would bring a couple of carloads of her friends. County Agent Heaton passed the word along.

Three times a week the women came, sometimes one carload of them, sometimes three. They didn't ride the big trucks, as they first had to get their menfolks off to work and a few household duties performed, so often it was 10 o'clock before they reached the fields. It was growing hot by that time, but they didn't complain about the heat, the sand, the wasp stings, or spilled drinking water.

"At first I believed they thought it just a lark," Mrs. Duncan confesses, "but they humbled me. Yes, they crowded us farm folks. We had to hump to keep up with them. Having them on the farm has been one of the richest experiences of my life."

A sociologist might be able to evaluate the program in terms of improved rural-urban relations.

Business closes at 4 o'clock

In Saline County, Mo., business houses in Marshall have agreed to close at 4 o'clock each afternoon, except Saturday, so that more townspeople will be able to work in the fields after business hours. Several men in the town who are past the age when they can be of much help with the work, have volunteered to provide cars for transporting workers. As the businessmen leave town about 4 in the afternoon and work until 8:30 or 9 o'clock, farmers are arranging to provide sandwiches and milk in the field about 6:30. In that county also, a women's division is being organized. These women will be available for work in the farm home, to assist in the preparation of food for workers, do canning or other work around the house. A merchant's committee is proving helpful in carrying on the campaign for farm workers there.

Rates for machinery use

Many Kentucky farmers are hiring work done by tractors, combines, hay balers, corn pickers, and other equipment for the first time this year. To help owners arrive at rates to charge and to acquaint farmers with usual rates for hiring work done, the experiment station has issued a report on custom rates suggested for farm jobs. Much big machinery is used for such a short time that costs run high. In four of the best Kentucky counties, tractors were found to be used less than 10 days in a season; few were used 100 days. Where two-plow tractors were used 50 days in a year, the cost averaged $5.10 a day; where used only 17 days, the cost averaged $9.10. Where tractors were kept going an average of 98 days in a season, the daily cost dropped to $3.64.

Arkansas moves the crops to market

■ Arkansas' Victory foods have continued to move to market on schedule this summer in spite of the manpower shortage, reports Walter M. Cooper, State supervisor of the Emergency Farm Labor Program.

Food crops that have been harvested on schedule since the organization of the farm labor program include strawberries, peaches, beans, spinach, blackberries, Irish potatoes, tomatoes, and cucumbers.

On a State-wide basis, the labor recruitment and placement program is now functioning through county labor committees, composed of farm men and women representative of the principal farming areas and crops in the county. Activities general throughout the State include the recruitment of workers through county farm labor placement centers, the maximum utilization of all available labor through rapid transfer of workers from farm to farm as jobs are completed, the closing of stores on designated days so that townspeople can assist with crop harvesting during the peak season, house-to-house and farm-to-farm recruiting by block leaders and minutemen, and the cooperation of ministers, school teachers, editors, and theater and radio-station operators in presenting the critical farm labor situation to the public.

The farm-labor-placement personnel of the United States Employment Service is working in accordance with the policies established by county farm labor committees as the result of an agreement between that organization and the Extension Service. In addition, farm labor assistants to county agents have been employed in counties where the labor committees have decided that such help was required.

From Polk County, Kenneth Bates, county agent, reports that farm workers, Boy Scouts, townspeople, women, and high school boys and girls were recruited to assist with the harvesting of 1,750 acres of tame blackberries, 650 acres of green beans, and 1,250 acres of Irish potatoes.

Workers to harvest these three important crops were obtained through an extensive recruiting campaign in which Claude Caldwell, manager of the farm employment office, W. M. Myers, farm labor assistant, ministers, neighborhood leaders, block leaders of Office of Civilian Defense, local editors, and businessmen cooperated.

In rural areas, surplus farm workers were obtained by a house-to-house canvass conducted by neighborhood leaders; while in town, main activities included a canvass by OCD block leaders, an appeal to church members at Sunday school and church by ministers, front-page newspaper stories, a full-page advertisement financed by the businessmen of Mena, and the closing of stores to release employees for farm work. At Wickes and Grannis, located in the critical labor area, stores closed 1 day a week during the harvesting period to release employees for farm work. In Mena, where stores had been closing on Wednesday afternoon to permit employees to work in Victory Gardens, an appeal was made for the employees to do farm work during the 2 or 3 weeks of the peak harvest season.

In addition, 132 Boy Scouts from Texarkana attending a recreation camp in Polk County turned out in full force to help with the harvest. They received the prevailing wages, and arrangements were made to have the time spent credited to their Scout record as emergency Scout work.

Also, Bates said, 100 Mexican workers—regular employees of a Polk County cannery operator—were brought in by this operator from his plantation in Texas to relieve the labor situation.

Labor to harvest beans, tomatoes, potatoes, peaches, and cucumbers in Howard County was obtained through a recruiting campaign, conducted by County Agent Paul Eddlemon, with the assistance of A. E. Hicks, county farm labor assistant and the county labor committee. The overlapping harvest of the five commodities created an acute labor shortage beginning the second week in June. To meet the situation, a special printed circular announcing the need for workers was distributed throughout the county, and special slides were run in the theaters. A severe crisis developed on Friday, June 11, with farmers reporting a need for 1,000 workers immediately. By Monday, 300 persons had been recruited and placed through the farm-labor-placement center in Nashville, and an additional 100 on Tuesday. A Negro leader whose assistance was obtained also recruited three or four truckloads of Negro workers to assist with the harvest. By Wednesday, the situation was no longer critical. Although the full thousand workers requested were not obtained, the farmers were able to harvest crops on time by making the most efficient use of the labor available. They accomplished this by switching the workers from farm to farm as the harvest progressed.

The cooperation of townspeople, school children, and neighboring farm families with Sevier County's strawberry growers saved the county's berry crop, according to W. B. Denton, county agent. A typical activity of rural local leaders in meeting the labor situation, Denton said, is illustrated by A. Hester of the Avon community. Hester made a house-to-house canvass to urge mem-

A. Hester (standing at right), a volunteer farm-placement representative, calls on the Elbert Cowart family about remaining in the community for the strawberry harvest. He visited nine itinerant families in his community and got them to promise to stay for strawberry picking, even though some of them were getting ready to move on.



bers of the families in his community to remain there to assist with the berry harvest. As a result, nine families with an average of four members each, agreed to assist their neighbors rather than look for work outside the community.

Growers near De Queen were able to get their berry crop harvested because of a recruiting campaign conducted with the cooperation of the school authorities, the local newspaper, the United States Employment Service, and business firms. Front-page appeals and full-page advertisements in the local paper influenced many townspeople to offer their help with the berry harvest. In addition, 125 high school boys and girls were recruited in De Queen through the assistance of the teacher of vocational agriculture, the county agent, and the De Queen School Board. Young people were transported in school busses to the berry fields. Special approval was obtained from the Office of Defense Transportation for use of the busses.

The Pulaski County farm-placement center located in North Little Rock recruited workers for the strawberry harvest in Lonoke and White Counties, in addition to labor for cotton chopping in Pulaski County itself, Stanley D. Carpenter, county agent, reports.

The Pulaski County farm labor program was developed by a county committee composed of eight men and six women. An executive committee, composed of a dairy producer, a cotton grower, a hill-farm operator, and a representative of the county's home demonstration clubs, is serving as an advisory group to meet emergency developments. Working with the advisory group are two Negro leaders, T. W. Coggs, president of Shorter Baptist College in Little Rock, and E. H. Hunter, principal of the North Little Rock Negro High School. These leaders are appealing to their own people to assist with farm production through members of the ministerial alliance in the county. During the critical cotton-chopping season in late June, workers were recruited through the placement center at the rate of 400 a day.



No food goes to waste

Thanks to the splendid cooperation of emergency farm labor offices in counties having surplus labor, none of the fruit and tomatoes in Franklin County, Pa., will go to waste because of lack of harvest hands.

That means approximately 500,000 bushels of peaches, 800,000 bushels of tomatoes, and practically 1 million bushels of apples will have been saved for consumers by local help plus the emergency farm labor recruited in Pennsylvania metropolitan areas.

It had been planned to use the Old Forge CCC Camp with a capacity of 250 and the Mont Alto forestry dormitory with a capacity of 150 to house imported workers beginning August 16. When weather conditions retarded the ripening of peaches, only a small proportion of the originally planned number could be placed. The number was increased as the need developed.

Saving a bumper hay crop

To meet the call for record milk production in the face of a shortage of dairy feed, the farmers of St. Croix County, Wis., have planted record hay crops. But the boys and hired men who used to bring in the hay are at the battle front or working in war industries; 2,000 of them are at the fighting front, so County Agent L. J. Stahler got busy.

Workers had to be found to harvest the hay. In the 12 villages (none over 2,400) 3 men were appointed as leaders, with 8 or 10 captains working under them. Each captain had from 4 to 10 men to help him, and this group visited every home in the county to find out who could work and when.

Harvesttime came around, and they were ready. Baldwin, the county seat, a town of 900 people, sent 80 men into the fields—storekeepers, doctors, feed dealers, hardware merchants, and other businessmen. Other villages each sent from 40 to 60 men. They went to work at noon and worked until dark, which is 9 o'clock in Wisconsin. Another group started work at 3 o'clock and worked until 9. Farm women drove the tractors and hay loaders; town women kept the stores and offices and did the work of the town men while they helped with the haying. Retired farmers living in town came back to boss the job. More than 700 extra laborers worked in the hayfields. The 80,000 acres of hay in the county was saved.

Picking a million bushels of beans

■ The farmers down in Henderson County, N. C., this year heard the Government's call for more food to help win the war. One of the things they grow best is snap beans. Normally, the county grows about 4,000 or 5,000 acres, but when the call went out for more food crops, farmers doubled their plantings to 10,000 acres, reports Glenn D. White, county agent.

Farmers knew when they planted this big crop that they would not be able to harvest it without the help of townspeople and outsiders. By working longer hours, they were able to get the crop planted and cultivated. But when the early crop was ready for picking, about the last of May, the regular farm workers and the transient laborers who normally harvest the bean crop were nowhere to be found.

With 2,000 acres of beans ready for harvest and continued rains slowing up the work, the plight of the farmers soon reached the ears of the city people in Hendersonville, the county seat. The chamber of commerce, the Rotary, Lions, and Kiwanis Clubs, and other local organizations began campaigning to get city people to the farms to help harvest the bean crop.

Despite the handicaps, however, the early bean crop of 200,000 bushels was saved. The stores in Hendersonville agreed to close two afternoons a week to allow their employees to help pick beans. From this little city of 5,300 people, 700 turned out to pick. Boys and girls from numerous summer camps in the vicinity, as well as tourists, turned from their recreation to help save the bean crop. And people from adjoining counties also came in. It is estimated that about 2,000 people were in the beanfields of Henderson County simultaneously.

Henderson County's million-bushel bean crop in 1943 is giving a big boost to the food-production program.

Southern workers help harvest spring wheat in Midwest

■ More than 3,500 domestic agricultural workers were transported to the Midwest and spring-wheat area in an effort to help meet emergency harvest needs and save vitally important war crops. These workers were recruited in four Southern States with the assistance of county agricultural agents.

In the first 3 weeks in August, 1,650 workers were moved from Arkansas to North Dakota; 1,200 from Oklahoma to Wyoming, Montana, North Dakota and South Dakota, 650 from Mississippi to North Dakota; and 200 from Alabama to Ohio.

Most of these workers helped with the wheat harvest in the spring wheat area. However, those who went to Ohio did general farm work, and some of those who went into Wyoming helped with the haying. Under an agreement between the extension directors of the States involved, the workers were returned to their home States in time to help with the cotton harvest which got well under way in September.

Public Law 45, under which the Government's farm labor program now operates, provides that the county agent must give his consent before a farm worker may be transported at Government expense to another county or State. This South-to-Midwest movement of farm workers was an excellent example of good cooperation and understanding existing between the various States and is a tribute to the work of county agents.

It was a critical situation that faced North Dakota wheat farmers about the first of August. The State's record crop, one-fifth of the Nation's wheat supply this year, was threatened with loss because of a lack of harvest labor. This need was met partly by bringing workers from Southern States where they were not needed at that time as well as through an all-out local mobilization and the use of some 5,000 soldiers.

Motor clinics

Motor clinics in New York State have worked on 1,100 electric motors from pump houses, homes, and barns, and 4,300 farmers have learned to clean, adjust, and protect electric motors from overload. The clinics are being continued through the fall and winter with the help of a truck equipped for electrical repairs and adjustments.

Women prove their mettle

■ Women and girls went to bat this past summer for the farm crops of Maine. Not only did the home folks go to work in earnest, but girls came from New England colleges and other schools to take their places on the food-production line.

Last year when there was a shortage of farm help Katherine L. Potter organized the WEFS (Women's Emergency Farm Service) which is now a part of the Women's Land Army. This year new recruits joined to cultivate and weed, pick fruit, berries, and vegetables, drive trucks, work in hayfields or dairy barns, or do any of the numerous jobs that go along with summer days on the farm. Some came for the summer and others for only a few weeks.

As the fog blew in from the Atlantic where Quoddy Head stretches into the ocean as the most eastern point in the United States, County Agent Clyde Higgins and I stopped at the Sherwood Prout truck farm in Lubec. Maine's First Lady, Mrs. Sumner Sewall, was there to work with the girls on the truck crops. That morning they had cut lettuce in the fields, washed, iced, packed it, and nailed the crates so that by noon trucks loaded with lettuce were on their way to be in the Boston market by early morning.

Mrs. Sewall, whose mother was Polish and father an English officer stationed in Poland, knows the horrors of an oppressed country, for she lived in Poland during the first World War. As she rose from weeding lettuce in a 7-acre field where about a dozen Smith College girls and 15 local boys were working, she looked out across the fields of beans and potatoes toward the ocean and said, "Because we are lending and helping to feed other countries God has been good and given us a bountiful crop. It would be criminal to let it go to waste. I think it is the duty of all who can, to help save the crops. I feel that I can be more useful on a farm than in a canning factory because I fear machinery."

She waved her hand toward the girls. "These girls fear nothing. They are not afraid of hard work or things they may have to do in the effort to win the war. All of us get up at 5:30, and a little later when we are in the truck going to the fields the girls are laughing and singing. And, are they healthy? One slender girl has gained 14 pounds since she came here."

Mr. Prout and his foreman, Leroy Young, said that they were depending on the college girls and a "mosquito" crew of farm workers recruited from youngsters of the neighborhood, to keep the fields weeded and to harvest the crops from the 40 acres of lettuce; 40, cauliflower; 25, peas; 20, beans; 2, cucumbers; 40, potatoes; and 8 acres of blue Hubbard squash. The previous week he had had 75 on his pay roll, which group included about 25 girls between the ages of 11 and 15. Mr. Prout and Mr. Young agreed that all were doing a marvelous job and that they deserved a lot of credit. They hope that these young people will return next year.

So that farmers may have good certified seed potatoes to plant for their 1944 crop, women and girls in the potato empire of Maine (Aroostook County) have spent many summer days roguing in the fields. Usually boys have done the roguing, but they were greatly needed to take the places of their older brothers to drive the tractors, cultivate and spray potatoes, and to do much of the other heavy work. So the girls pitched in to help wherever they could.

First, they had to learn to identify diseased potato plants so that they could dig them up and destroy them. On the way to a field entered for certification two Easton girls, Virginia Rackliffe and Esther Turner, told me that their high-school agricultural instructor, Kenneth Clark, had classes three evenings at the high school to instruct girls, women, and boys, and then he spent 3 days with them in the field. After that training, the girls rogued a few rows which Mr. Clark inspected. He also looked at the plants that they had taken up as being diseased. Being satisfied that they "knew their potatoes" he told them to go ahead "on their own."

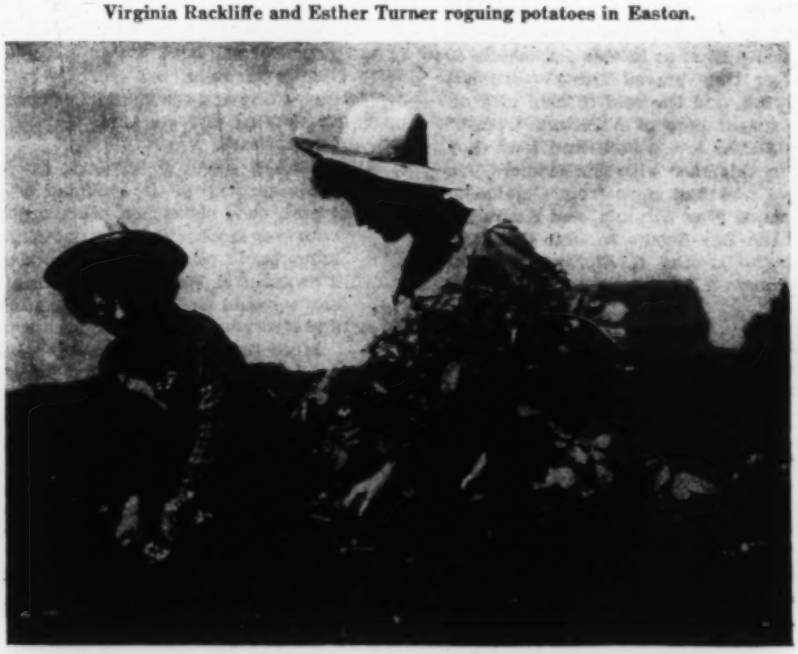
The girls were dressed in sturdy slacks, heavy shoes, shirts, and broad-brimmed hats, for they worked in all kinds of weather—in the sunshine, wind, and rain. Each had a potato sack slung over her shoulder for the diseased plants. Armed with their short-handled three-tined potato diggers they walked down the rows while carefully looking at each plant.

The roguers were looking for plants having any of four diseases—blackleg, mosaic, leaf-roll, or purple top, as well as any plants that were of a different variety than that planted in the field.

Besides spending 22 days in Easton and Caribou roguing 94 acres of seed potatoes, which passed inspection for certification, the girls helped their fathers in the hayfields, harrowed with the tractor, pulled mustard and other weeds, and did other jobs on the farm. These are only two of the many women and girls who have done their part to insure disease-free seed potatoes for next year's planting.

Among the many women who went from other States to help Maine farmers were two teachers from a private school in Washington, D. C., and a woman from Boston. These 3 worked together for 6 weeks.

Virginia Rackliffe and Esther Turner roguing potatoes in Easton.



The three women got up at 4:30, drove the cows into the barn, and milked them with milking machines. After breakfast they cleaned the dairy room and washed the utensils used. They also cleaned the barn from "top to toe," which job took until lunch time. Later they brought the cows in from pasture and did the evening milking.

Although the work was new to them they enjoyed it, loved the people of Maine, and are looking forward to going back next year. Mr. Gould had said that at first he was afraid that women could not do the work as the 26-pound milking machines were so heavy to lift, but when they left to go back to their teaching he was convinced that women have their place on the farm as well as in the farm home.

About 40 girls of high-school age, called the Junior WEFS, lived as a group at a camp in Newport. Each morning at 7 o'clock they went by truck to weed in the fields and harvest the seed for seed and packing companies. They worked until 5 in the afternoon, with time out for eating their box lunches and resting. At the end of the warm days they enjoyed a swim in the lake.

Girls at Camp Tanglewood in Lincolnville, under the supervision of Gladys Russell and counselors, helped materially in harvesting crops. One day in August 112 girls gathered the almost unbelievable quantity of over 2 tons of beans at a farm in Belfast, and the next day 29 completed the work. Some of the girls stayed after the camp officially closed to pick blueberries.

Women, boys, and girls proved their worth on Maine farms throughout the summer. Even as late as the middle of October they braved frosty mornings, the wind, and the cold to help pick up the bumper crop of Aroostock "spuds." Young folks love a race, and were they not in this race with the farmers, the people who had come from Oklahoma, Arkansas, West Virginia, and Kentucky, and the Boy Scouts to beat Old Man Freeze?—*Dorothy L. Bigelow, editorial assistant.*

Shaking peanuts for a holiday

46



■ A few years ago, Sumter County, Ga., grew about 30,000 acres of peanuts and had plenty of labor at harvesting time for the necessary hand work of picking them up after they had been plowed out, shaking the soil from the peanuts, and stacking them around a pole to await the thresher. This year, in response to wartime needs, Sumter County planted 50,000 acres. About 1,000 boys of the county are in the armed services and that many more in war industries who used to help on the farms.

The farmers with the help of their wives and daughters, handled the preparation of the land, planting, and cultivating all right, but when it came to harvesting and the hand labor necessary in shaking and stacking, the situation looked grave.

County Agent J. K. Luck got busy. With the help of the chamber of commerce, civic clubs, and other groups, a plan was made. The town of Americus announced 4 peanut-shaking holidays on 4 consecutive Wednesdays, when all the stores would close and the storekeepers and clerks would go to the peanut fields.

More than 1,000 townspeople turned out to shake peanuts on that first Wednesday, August 18. The white people and many of the Negroes did not ordinarily do field work, but they stacked about 187 tons of peanuts—11,000 stacks. "At first the farmers were somewhat skeptical of the idea of city folks doing farm work, but after that first day they were thoroughly sold on the idea," reported County Agent Luck, who believed that not an acre of peanuts was lost because of lack of labor.

The "Peanut Shaking Holiday" was responsible for the harvesting of at least one-half of the peanuts in Sumter County.

As one editorial put it, "The Battle for Food was on in Georgia to save the last pound of Spanish peanuts our boys need so badly for oil to grease their rifles, as well as for food in a hundred ways."

Everyone turned out for the peanut-shaking holiday, even Congressman Stephen Pace who worked for several days in Sumter and surrounding counties and was much photographed on the farm of one patriotic farmer who put in 125 extra acres in peanuts.

The second and third "holidays" turned out to be cotton-picking holidays as the need for cotton pickers began to be felt more acutely than the need for peanut stackers. On these days, the townspeople picked about 120 bales of cotton and harvested 60 tons of peanuts on each holiday.

Farm-labor club

The need for emergency farm labor hasn't bothered the residents of the little community of Porters Falls in Wetzel County, W. Va. They have their own way of solving the problem. Employees of the Manufacturers Light & Heat Co. and of the United Gas & Oil Corporation who live in Porters Falls have organized a farm-labor club. On their days off from their regular work, these employees of the two companies spend the time aiding the farmers in the neighborhood in any particular seasonal activity.

Some of the club members have farms or large gardens of their own, so they spend their time off engaging in their own food-production activities.

4–H Club members save beans

Members of the Ranger 4–H Club, Tiverton, R. I., by volunteering for farm labor, saved more than 2 acres of beans. The beans were about to be plowed under for lack of help to harvest them when a group of 4–H members was organized by R. B. Wilson of the farm-labor office and 4–H Club Agent Carl B. Garey. They picked more than 75 bushels of beans in their first 2 days of work. Some of the beans were sold to the Fall River Canning Center, and others went to the wholesale market.

FARM-LABOR PROBLEMS are still occupying a great deal of time in many States. In the country as a whole, October represents one of the peak months in farm labor. A fine spirit of cooperation has been shown by States in recruiting seasonal labor to emergency needs in other States. October records showed that 14 States had recruited workers whose transportation was paid by the WFA Office of Labor. More than 1,000 Kentucky workers were taken to the Aroostook County, Maine, potato fields and made a fine record for themselves with the Maine farmers. Tribute was paid to this group for their good-neighbor deed by Congressmen from both States when the group returned to their homes by way of Washington, D. C.

ONE AMONG MANY good examples of effective cooperation in harvest-labor emergencies comes from King County, Wash., where 40,003 farm-labor placements had been made up to September 1, with 95 percent of them boys and girls. Three days of rain matured hundreds of acres of beans rapidly; and yet it was so wet that no picking could be done, and the situation was serious. An intensive "save the bean crop" campaign was launched by farm labor committees, civic and service organizations, newspapers, and radio stations. Four thousand bean pickers were recruited. They cleaned up the fields in 3 days, saving virtually all of this essential food crop.

Teamwork saves vital war food crop in Maine

■ Right into the heart of America's great potato land, Aroostook County, Maine, went 1,600 farm workers from Kentucky, Arkansas, Oklahoma, and West Virginia to help harvest the all-time record crop of 71 million bushels of Maine potatoes.

Leaving their own farms during a slack season, these southern workers joined thousands of Maine farm and city workers, 600 Boy Scouts, a few Canadians, 300 Jamaicans, about 700 soldiers, and other helpers to save the bountiful crop of potatoes.

In the spring Maine farmers had responded to their Nation's demands for more potatoes by increasing their acreage by 23 percent to a record of 192,000 acres for the State. This large acreage, coupled with prospects for a record yield and the lateness of maturity, worried the farmers. Killing frosts were 10 days to 2 weeks later than usual, and farmers did not see how they could possibly harvest the "spuds" without more help than they could get at home.

In normal times Aroostook farmers get extra help from other sections of the State and from Canada. With several thousands of Maine workers, including farmers, in the armed services and employed in war industries, a real crisis existed. When the farm labor committee, Farm Labor Supervisor Smith C. McIntire, and the three Aroostook County agents—Verne C. Beverly, B. M. Jordan, and C. A. Worthley—knew that they had mobilized all the help available in Maine, they figured how many more workers would be needed. They gave this information to the War Food Administration in Washington. Through the Extension Service, county agents in the four southern States recruited workers who were transported to Maine by the Office of Labor of the War Food Administration and placed on Aroostook farms by the county agent's office.

When the job was done, plans were made to return the workers to their home States. About 500 of this number were scheduled to pass through Washington on the return trip. Accordingly, as an expression of gratitude, arrangements were made for them to stop over for several hours at the Nation's Capital on their return trip on October 21, where they saw Congress in session and were congratulated by more than a dozen prominent Senators, Congressmen, and War Food Administration officials.

In a short ceremony on the Capitol steps, Senator Ralph O. Brewster, Senator Wallace H. White, and Congressman Frank Fellows, of Maine, expressed to the group the profound thanks of the people of Maine for the help given in saving this vital war food crop.

Greeting the group from their home States were Senator Alben W. Barkley, Congressman A. J. May, and Congressman John M. Robsion, of Kentucky; Senator Elmer Thomas and Congressman W. E. Disney, of Oklahoma; Senator H. M. Kilgore, of West Virginia; Senator Hattie W. Caraway and Senator John L. McClellan, of Arkansas; and Senator John Thomas from Idaho.

Speaking for the group, Senator Barkley congratulated the workers for the patriotic war job they had done in Maine at a time when work on their own farms was slack.

War Food Administrator Marvin Jones accepted from the group a bushel of potatoes, sent by Governor Sumner Sewall, of Maine, and presented by Mrs. Alice Davis, 71-year-old widow from Lovely, Ky. Judge Jones congratulated the farmers, including the Maine potato growers, for this year's tremendous potato production, and told the southern workers that the way they had helped harvest Maine's bumper potato crop was a splendid example of the kind of teamwork that brings victory. "Nothing is more important than food," he explained. "It is as essential as the air we breathe. Right now, it is more important than ever because it is a weapon of war."

Col. Philip G. Bruton, Director of Labor in the War Food Administration, likened the returning workers' stop-over at the Capital to a celebration of a victory.

In paying tribute to Mrs. Davis and other southern workers, Senator Brewster said:

"Mrs. Davis truly typifies the spirit of American womanhood in demonstrating her prowess by picking 63 barrels of potatoes in a single day. This was her record. She averaged 55 barrels for every day that she labored to help win the war through a more ample food supply. Mrs. Davis went to Maine with three nephews and three cousins and there found the happy association of service in Maine farm homes.

"Mrs. Davis herself is a farmer and owns and operates a 10-acre farm in the mountains of Kentucky. She is now going back home to dig her own patch of potatoes and harvest her corn and then to plant her winter crop of vetch and clover, which she will have plowed under in the spring as a foundation for another crop.

"America may well pause to pay tribute to this personification of American womanhood, as we renew our faith in the ability of our women to carry on for a total victory and a lasting peace."

Mrs. Alice Davis, Lovely, Ky., presented a bushel of choice Maine potatoes sent by Governor Sumner Sewall, of Maine, to Judge Marvin Jones, Administrator of the War Food Administration. (Left to right) Senator Alben W. Barkley, of Kentucky; Mrs. Davis; Judge Jones; Senator Wallace H. White and Senator Ralph O. Brewster, of Maine.





Marvin Jones, War Food Administrator, thanked the 500 people from Kentucky, Arkansas, Oklahoma, and West Virginia, who attended a ceremonial of appreciation on the Capitol steps, for helping to harvest the potatoes in Maine. Seated at the left of Judge Jones with Congressman Frank Fellows, of Maine, are Roy Garrett, Pine Ridge, Ark.; William Newman, Ceredo, W. Va.; Mrs. Alice Davis, Lovely, Ky.; and Christopher Wiese, Spavinaw, Okla. who were selected as leaders for their States for the return trip.

Not only did the southerners pick potatoes, but some loaded barrels of potatoes onto the trucks in the field. Clifford Shotwell, Versailles, Ky., who loaded potatoes picked up by other workers, loaded 20,800 barrels during his month's work in Maine.

Many entire families were in the group. Among them were Sam Hensley, Warfield, Ky., his wife, and two sons, 14- and 15-year-old 4-H Club boys. During the month they picked enough potatoes to take home $400 above board and other expenses. Christopher Wiese, Spavinaw, Okla., saved more than 2,000 barrels of potatoes and headed home with $228 clear.

Some of the men were carpenters and helped build or repair potato storage houses. Potatoes are stored in just about every available place. Lack of storage made it necessary for potatoes to be shipped in bulk to other potato areas for grading. A few potatoes were stored temporarily in pits which were dug in the side of hills through the cooperation of the State Highway Department.

Eager to get back home to do work waiting for them, and tired from their back-bending job of picking up potatoes, the southern workers had the satisfaction of having helped do a vital war job. They had picked many thousands of barrels of potatoes and earned good wages while doing the neighborly thing of helping farmers through a crisis.

Since the Arkansas workers returned, County Agent Kenneth S. Bates, Mena, Ark., has written to Verne C. Beverly, county agent of Aroostook County, as follows:

"All of the workers from Polk County have returned from your State by now. Without an exception they were all well pleased with the potato-harvest work in your State.

"I have asked a number of the workers as to the amount of money they were able to make in this harvest. They have given me a report ranging from $150 to $335 with an average of about $200 for each individual.

"The workers said that you folks really treated them swell and they were well pleased with the living conditions while in your State."

Among the workers from Canada were 64 students of the Oka Agricultura School and the Oka Veterinary College at Oka, Quebec, who went to Maine under the direction of Dr. Francois Levesque. These boys, between the ages of 19 and 28, are allowed by the Canadian Selective Service to get their military training at college. The boys were excused from their schools for 2 weeks to help their American neighbors harvest their potato crop.

Of the 620 Boy Scouts who worked in Aroostook the 60 who were housed in the high school building at Fort Fairfield were typical. Their directors, Harold Marland, of a Massachusetts council, and Bertrand Wood of two Connecticut councils, said that they believed that Scouting had "grown up" and that this mass movement of potato picking was one of the biggest things that had happened in scouting. The boys worked well in Aroostook, picking potatoes. They also joined in such community activities as putting on skits and singing at community sings, singing in the churches, and serving as altar boys. They were invited to a Rotary Club meeting where they talked about Scouting. The Rotarians became "Boy Scouts" for one meeting and learned knot tying and other craftsmanship practiced by the Scouts.

The 620 Boy Scouts worked 19 days in Aroostook and picked 306,459 barrels of potatoes. The high individual record was 1,045 barrels by Pay Pong Yee, a Chinese boy of Gloucester, Mass.

The appreciation that Maine feels for the splendid assistance given is expressed in statements by Extension Director Arthur L. Deering of Maine, and from farmers of Aroostook.

Director Deering said: "Every potato gathered on an Aroostook farm by our neighbors from the Southern States is a potato saved from freezing. Aroostook farmers went ahead and raised the largest potato crop in history as a patriotic duty and then found it impossible to harvest the crop with the depleted local labor supply. This movement of farm labor from one part of the country to another to save a food crop proves what teamwork can do in a great emergency."

Milton Smith, Mapleton, Maine, chairman, Aroostook County U. S. D. A. War Board, and grower-shipper of certified seed potatoes, commented: "I had 10 men from Arkansas and 10 New England Boy Scouts in my picking crew. They did a wonderful job. Help this year from other States saved our potato crop. I believe that we will need pickers from other States next year and would like to speak for workers from Arkansas now."

And, Frank W. Hussey, Presque Isle, president, Aroostook County Farm Bureau, said, "Aroostook farmers are deeply appreciative for the assistance given by our friends from Kentucky, Arkansas, and other Southern States. We planted the largest acreage and have had the largest yield of potatoes in history. Digging was delayed for 2 weeks because the plants were not ripe. Without southern help, we could not have harvested the crop."

By *Dorothy L. Bigelow, editorial assistant.*

The widow's hay crop

■ Biblical times gave us the story of the widow and her mite, but modern times give us the story of how the county agent's might saved the widow's hay crop.

It was out in Panguitch, Utah, that Joseph Muir, Garfield County agent, learned in September that Widow Alexander, whose husband had died suddenly, had 25 acres of alfalfa hay standing in the field and no one to harvest it. Now Joe's a good Christian as well as a good county agent, so he decided to do something about it.

First, he went to the county attorney who had previously told, in Joe's hearing, a few stories about his hay-loading prowess when he was a younger man. He challenged the attorney to make good his "crack" about his skill, and the challenge was accepted. From the attorney's office, Joe went to the superintendent of schools, the postmaster, representatives of the Farm Security and the Soil Conservation Services, and other friends in important positions, and told them of Widow Alexander's plight. Joe recruited nine hay hands. The recruits made a game of the hay harvest. The county agent helped to mow and rake the hay; then the nine white-collar boys came in and piled it, and the fun began.

Now members of the hay-pitching crew laugh when they tell of covering up the county attorney on the load and demonstrate the kind of stack Joe Muir made, and guffaw when they reenact the antics of the man who operated the Jackson fork. They all disagree on who did the most work, but agree that the end of the day brought a tired crew to supper; but Widow Alexander's hay was harvested without cost to her. In fact, the spokesman for the Christian gentlemen said to Widow Alexander when she offered to pay them for their labors: "Glad to do it . . . nothing at all . . . go buy yourself a bond."

Potato interests pay tribute

Two statements proposed by the potato industry committee and approved by the Maine U. S. D. A. War Board at a meeting in Bangor, Maine, during the first week of November, commend the railroads of Maine and the Extension Service for assistance given in meeting Maine potato harvest emergencies this fall. On the aid that Extension Service gave to the farm labor needs of Maine, the statement said:

"The potato industry of Maine deeply appreciates the contribution made by the Farm Bureau and Extension Service and allied agencies toward meeting the labor situation this fall.

"Never in the history of the industry were the farmers faced with a more difficult situation in regard to labor. To the day of beginning digging, no man could be sure where his crew was coming from, or at what price.

"The Extension Service came to the rescue in a way that exceeded all expectations. We appreciate their efforts and apologize for the 'cussing' they have taken.

"This meeting wishes, therefore, to recognize their continuing efforts and extend our thanks for their contribution."—*From Fort Fairfield Review, Fort Fairfield, Maine, Nov. 10, 1943.*

Oregon boys and girls harvest for victory

A study made in September of the Victory Farm Volunteers program in Marion County, Oreg., highlights the success of the platoon system. It is the story of a well-planned and well-supervised program for boys and girls who lived at home and worked by the day on nearby farms. Dr. Fred P. Frutchey of the Federal Extension Service, who made the study with members of the Oregon Extension Service, gives us his observations, based on interviews with 73 boys and girls, the farmers employing them and some of the parents.

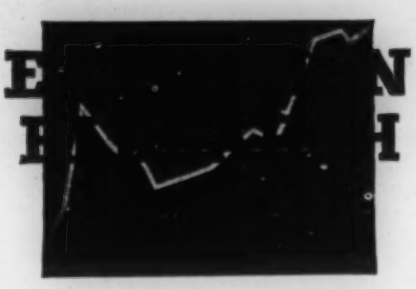
■ No food went unharvested because of lack of farm labor this year in Marion County. In this fertile Willamette Valley some 8,000 Victory Farm Volunteers hired out by the day and pitched in to gather in the crops—principally strawberries, raspberries, loganberries, boysenberries, onions, beans, hops, prunes, and nuts. These young workers, half of them boys and half girls, averaged ten 8-hour days of work—in all, 80,000 days spent harvesting foods.

The results have pleased the farmers, the children, their parents, and local authorities. All want the program repeated next year.

Nearly 500 boys and girls worked in platoons averaging about 35 workers. Growers hiring platoons were better satisfied than they were with the work of the independents who did no work in platoons. Some growers felt the platoon workers were even better than the usual adult labor. One platoon harvested 35 tons of cherries and berries. One picked 9 tons of gooseberries in 2 days.

The platoon groups were supervised from the time they left town until their return. Any dissatisfaction of the growers or youth was handled by the platoon leader whose job was to see that the food was harvested and not wasted, and also that the young workers were properly taken care of. The independents had no such influence on their work, and, in some cases, dissatisfaction on the part of both grower and youth was never adjusted. Some boys and girls who worked independently for a while joined the platoon later, and liked it better. The discipline of the platoons seemed too strict at first for some, but they grew to like it.

The platoon groups, of course, had the advantage of care during transportation,



in which safety practices were strictly followed. The grower paid for the transportation which included the licensed driver and liability insurance.

In the platoons, the leaders upheld the wage standards by seeing that the young workers were paid on time. In some cases trouble arose between the independents and the growers, and there was no one to mediate the differences.

The amount the boys and girls earned per day was exceptionally high in comparison with wages earned by workers in other States. One 14-year-old girl earned $11.90 in one day picking 70 boxes of prunes at 17 cents a box. This was unusual of course, but the average highest amount earned in a day by those interviewed was about $5.50. It was estimated that the average platoon member earned between $150 and $200 during the summer.

Members spent their money for school clothes, bonds, and miscellaneous things they wanted. Many put some away for expenses during the school year.

Parents interviewed were decidedly in favor of the platoon work under its good supervision. They felt that the well-organized work experience helped their children to develop good work habits.

The boys and girls seemed to appreciate the educational advantages of their farming activities: Many mentioned, "Learning to work steady," as being important. Some said they learned, "What farming is like." Others considered their work as a contribution to the war service. Many of them said they valued the new friendships made. Most of them thought the farm work was good for them; it kept them "out of trouble in town."

According to the Salem juvenile officer, juvenile delinquency in that locality was considerably reduced while the urban boys and girls had been working on the farms. His records showed that when the boys and girls were not occupied, the juvenile complaints coming to his office were five or six a day. During the summer when the boys and girls were doing VFV work, only one or two complaints a week came in.

The good cooperation of the Marion County schools in the recruitment and selection of the Victory Farm Volunteers was an asset to the program, according to J. R. Beck, Oregon farm labor supervisor. The county superintendent of schools sent questionnaires to all schools to register boys and girls for farm work during the summer. The registration lists were turned over to the VFV county assistant farm labor supervisors and the United States Employment Service which was cooperating on the farm labor program.

The platoon leaders were school teachers, who selected the workers from the registration lists and throughout the summer built up a good working platoon.

A significant part of the VFV day-haul program was given to the training of platoon leaders. Eight 2-hour meetings were held every 2 weeks to discuss their job. The first meeting was called at the request of the leaders. Vocational agriculture teachers were present and served as consultants in these discussion meetings. Growers and cannery representatives were also called into the meetings. The aim was to give the leaders a full picture of their job. Leaders were also taken into the fields and worked under the instruction of the farmer. The training given the leaders paid for itself during the summer.

The program, Food for Victory, was taught in the rural and city schools of the county as a part of the social studies or English course in grades 5 to 12. Each pupil was given a copy of the material.

Training at Schools and Farms

After the VFV's were taught in school how to do farm work, they were shown how when they arrived at the farm. The first day on the job, each boy and girl was trained in farming skills by the farmer or platoon leader. After starting work, further instructions were given them by their platoon leader.

The growers who realized that the workers were younger than formerly had more success with the youth labor. The VFV's in platoons were placed on farms where the grower acceptance was good. Those boys and girls working independently, of course, worked on farms of their own choosing.

When working on farms, the children brought their own lunches which they ate in the fields or orchards. Packing a good nutritional lunch for those youngsters was considered from the health angle. Mrs. Mabel C. Mack, of the Oregon Extension staff, prepared a special leflet for the mothers.

Russel M. Adams, State VFV assistant farm labor supervisor, is preparing a VFV handbook for Oregon from the experiences of this summer and materials used.

Miss Pidgeon - [illegible]
2/25/43

ADVANCE RELEASE

ADVANCE RELEASE: For TUESDAY AFTERNOON Papers, March 23, 1943.
Greenblatt - WMC - 2036

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION PM-4344

The Women's Advisory Committee of the War Manpower Commission today called upon women's clubs throughout the country to mobilize their members for active service on the nation's farms this summer.

This mobilization, it was emphasized, is not to meet an immediate need but for one foreseen in the summer. It is not expected that women can be given immediate agricultural employment on farms and in food processing establishments in all sections of the country at this time. Applicants for agricultural work will be called as the needs arise in their respective localities.

In a statement to members of women's organizations the Committee, headed by Miss Margaret A. Hickey of St. Louis, urged physically able women to take a "personal responsibility" in meeting critical agricultural labor needs in their communities.

Women's organizations were asked first to find out from their County Agricultural Agent or local U. S. Employment Service Office what are farm labor needs in their particular localities. In those communities where such labor is urgently needed, they are urged to poll their memberships for those willing to work on farms on a seasonal, vacation, or full-time basis and to give this information to the County Agricultural Agent or the U. S. Employment Service. One or the other of these agencies, it was pointed out, has an office in each locality and has responsibility for recruiting and referring farm labor.

Other activities suggested for women's organizations were to aid in mobilizing young people for farm work and provide necessary supervision of their living conditions; to assist local government officials in recruiting farm workers, and to acquaint women generally with the seriousness of the farm and food production problem through club educational program.

The full text of the statement by the Women's Advisory Committee follows:

"The Women's Advisory Committee of the War Manpower Commission recognizes the imperative need for immediate action in order to meet this year's demand for agricultural workers, and affirms that there must be no hesitation on the part of physically able women to assume a personal responsibility in meeting the farm labor needs in their communities.

"The Women's Advisory Committee is convinced that women can and must contribute enormously to food production by supplementing and replacing farm manpower.

"Women's organizations are in a position to assist materially in meeting this demand for agricultural labor, both through their educational programs and their organization membership. The Women's Advisory Committee commends those women's organizations which have responded to the war-time emergency by remaining active on a year-round basis, with no cessation of organizational activity during the summer months.

X-12252

"At this moment of national crisis in our agricultural situation, and in view of the food requirements of the United Nations, the Women's Advisory Committee recommends and urges that women's clubs and organizations at the community levels immediately appoint agricultural committees to:

"(1) Obtain information as to the agricultural labor requirements in the particular locality from the U.S. Employment Service or the County Agricultural Agent. One or the other is in every locality and has the responsibility for recruiting and referring agricultural labor.

"(2) In those areas where agricultural labor is crucially needed, urge women from the club membership to accept agricultural employment on a seasonal, vacation, or full-time basis whenever and wherever possible; in club meetings find out those willing to do farm work and the type of work which they can do and give this information to the local office of the United States Employment Service or the County Agricultural Agent.

"(3) Urge women to aid in mobilizing young people for work on farms and provide from the club membership the names of those who can give supervision to those young people to assure proper transportation to and from work; working conditions not injurious to their health; and adequate meals and rest periods.

"(4) Urge those women of the organization's membership unable to accept farm employment to volunteer their services to either the County Agricultural Agent or to the local office of the United States Employment Service to aid in mobilizing workers for agricultural employment.

"The Women's Advisory Committee of the War Manpower Commission has full confidence that the women of America will step forward and do their share in relieving farm labor shortages in every agricultural community in the United States."

Farm Labor Plan Inaugurated To Hire 3,500,000 Crop Corps

By Ovid A. Martin
Associated Press Staff Writer

Armed with a special appropriation of $26,100,000, Food Administrator Chester C. Davis inaugurated yesterday a broad program designed to provide farmers with sufficient labor to produce a record supply of food.

The program calls for the enlistment of a United States corps of 3,500,000, including urban men, women and boys for full-time and part-time work, and the importation of up to 65,000 foreign agricultural workers for placement on farms.

President Roosevelt cleared the way for action yesterday by signing a deficiency appropriation bill providing the funds. Most of the money will be used to provide transportation and shelter of workers employed away from home. The workers themselves will be paid by farmers.

The farm labor program will be directed by Lieut. Col. Lewis Taylor, deputy food administrator. Under Taylor will be M. L. Wilson, director of the Agriculture Department's extension service, and Col. Phillip G. Bruton. Both Taylor and Bruton have been lent to Davis by the War Department.

Wilson will be responsible for mobilizing and placing of farm labor for use within each State, Bruton for the supply and distribution of foreign labor and domestic workers moved from one State to another. In providing transportation and housing for foreign workers and domestic workers moved from one State to another, Bruton will use facilities and personnel of the Farm Security Administration.

Davis said considerable progress has been made towards solving the farm labor problem. He reported that the Selective Service System had deferred 1,012,302 farm workers between last November and April 15, and estimated that by the end of 1943 a total of 3,000,000 such workers will have been deferred.

The food administrator said the War Manpower Commission regulations issued under President Roosevelt's recent hold-the-line order are expected to slow down migration of workers from farms to better paying urban jobs. Those regulations restrict persons engaged in farming taking other work if the only purpose of the move is to accept more pay.

Off The Record



"Whaddya mean, YOU miss for a movie sin

Food Call Widens Work Of County War Boards

CSM 5/29/43

WASHINGTON, May 29—With food production a pressing war job, the county war board is becoming a major American institution.

There are 3,028 of these local branches of the United States Department of Agriculture in the country today. The farmer and his wife almost cannot turn around without consulting one.

Here are some of the jobs the county war boards already do, and War Food Administrator Chester C. Davis predicts they will get more work all the time.

Handle construction and repair permits for farm buildings.

Issue permits for farm-truck operation.

Decide who shall get purchase certificates for the limited amount of farm machinery for which the War Production Board has allocated steel.

Recruit members of the United States crops corps to help out the farm labor problem, which Mr. Davis says is 1 per cent in Washington and 99 per cent in the States.

Issue purchase certificates for pressure cookers to groups that will can the most food.

Later they may have to distribute livestock feeds, now growing short.

Also they may have to certify and issue livestock shipping permits in event of a market glut or transportation shortage.

The county war board is made of a farmer's own neighbors. It answers the oft-made criticism of too much direction from Washington.

It places responsibility "on the courthouse square," Mr. Davis explains. "It will rest there even more definitely as we conclude plans which are now taking shape," he promised.

Mr. Davis this week named M. Clifford Townsend, former Governor of Indiana, to be contact man with the Department and local governments.

Mr. Townsend knows the American county, having served as County Superintendent of Schools for 14 years in two Indiana counties. Since coming to the Federal Government in 1941, he has served successively as Director of the Office of Agricultural Defense Relations, Administrator of the Agricultural Conservation and Adjustment Administration, and Director of the Food-Production Administration.

3/26/43

Davis to form food army; power defined

Washington, March 26 (AP) —President Roosevelt told today of plans for a crop-cultivating land army under Food Adm. Chester C. Davis and an increase in the supply of farm machinery and the deferment of hundreds of thousands of farm workers.

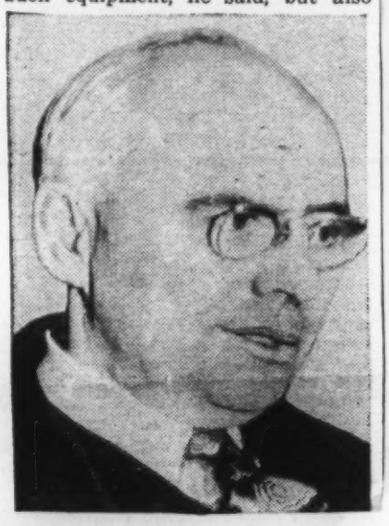
He emphatically concluded that we are not going to starve in this country.

At the same, the Chief Executive told a press conference that 550,000 farm workers already had been deferred from military service and that Lewis B. Hershey, selective service director, estimates that 3,000,000 additional people on the farms would be deferred this year.

MACHINERY PROMISED

In a lengthy discussion of farm problems, Mr. Roosevelt also said that the War Production board has taken steps to insure a greater supply of farm machinery to those who till the land.

Not only will some of the larger manufacturers be allowed to make such equipment, he said, but also





Chester C. Davis

. . . his status undefined.

an effort will be made to obtain more adequate distribution facilities for the smaller plants. Previously, the big manufacturers had been converted to war production and had stopped making farm machinery.

The President released today the executive order setting up the new office of food production and distribution, of which Davis will take charge on Monday.

Davis will co-operate with Agriculture Sec. Wickard, Mr. Roosevelt said but in final decisions, Davis would come to him. This will remove nearly all phases of the wartime food program from Wickard's control and leave him to handle the old line bureaus of the Agriculture Department.

To make clear another point, the President said Davis also would have authority over farm prices.

On the question of a land army, the Chief Executive asserted that this is one of the things Davis is going to take up upon his arrival in Washington. The Chief Executive cited Britain's success in increasing food production about 60 per cent through the use of such an army.

FURLOUGHS PLANNED

The farm labor supply, in addition to the high school boys and girls and women, will be augmented, Mr. Roosevelt said, by the probable release on furlough of a great many thousands of servicemen. He said this would help very much in alleviating the labor shortage.

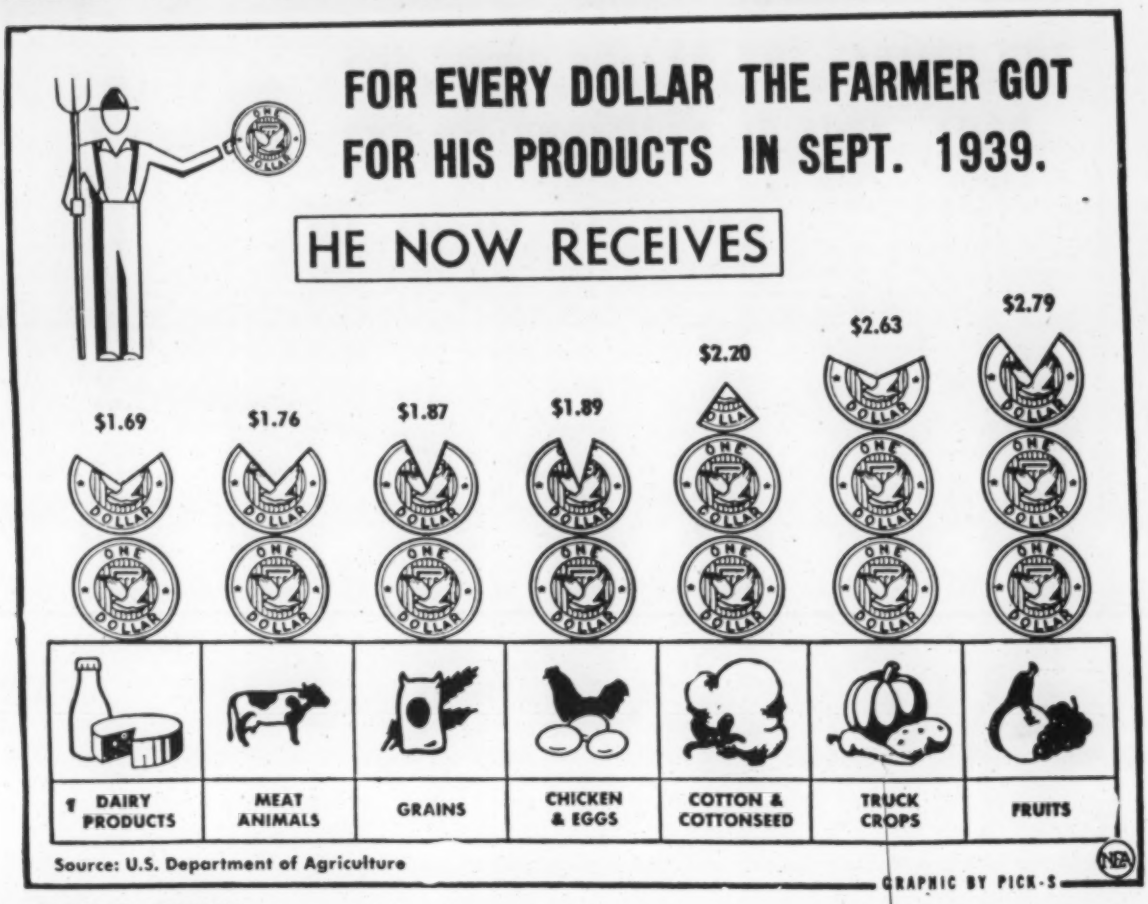
It is possible without too much disruption, he said, to furlough men in divisions which have been in training only three or four weeks. But he said it would spoil the Army to break up combat divisions ready to leave within two weeks for overseas duties.

Just what size a land army would take, the President did not say.

Breaking down the 3,000,000 man total of prospective deferments of farm workers this year, the President said 400,000 would be single and 2,000,000 married with wives or

Nearly Doubled Since 1939

Economists Warn of Food Price Rise if Farmers Get More Aid



By DANIEL M. KIDNEY

With the Administration and Congress ready to give the farmers more money, either by subsidies or punctured price ceilings, the Bureau of Agricultural Economics today warned against further price inflation in farm and food products.

In the "1944 Outlook Issue" of "The Demand and Price Situation," a Department of Agriculture publication, the bureau's economists published a chart showing that farm product prices have nearly doubled since 1939.

Meanwhile nonagricultural commodities have risen only 20 per cent from 1939 levels, the chart shows.

The warning is contained in comparing the progress of farm product prices with these of the first World War and pointing out that a similar sudden postwar drop and farm depression might follow if the pattern is continued.

FOLLOWED 1914 COURSE

"From the beginning of the war to the end of 1941, wholesale prices of farm products followed a course very similar to that in 1914-16, but the rise in 1942 and 1943 has been smaller than in the comparable period of World War I," the bureau reported.

"Wholesale prices of nonagricultural commodities up to August 1943 rose only 20 per cent from their 1939 levels, as compared with an advance of more than 90 per cent from 1914 to the middle of 1918.

"These divergent movements suggest that the postwar adjustments in prices may be much greater for farm products than for nonagricultural products."

The economists stressed the fact that farm and food prices are relatively unstable and show how the unprecedented demands keep pushing them upward. The conclusion is reached that the farmers are doing very well for themselves at these prices.

OTHER PRICES STABILIZED

"Wholesale prices of all commodities except farm and food products have virtually been stabilized," the report states.

"Price advances for farm and food products, on the other hand, have continued at a declining rate during recent months, altho the price indexes for both the 'farm' and 'food' categories were lower in July than in May.

"Except for some further rise in prices of certain agricultural products, prospects are for little change in the general level of wholesale prices until either cost or demand conditions change.

"Significant changes in these factors are not to be expected before the end of European fighting at the earliest. The size of the change then will depend in part on the speed of events leading to the cessation of hostilities as well as on the extent to which people forsee those events and adjust business operations . . .

"Prices received by farmers in 1943 will average 20 to 22 per cent above 1942.

"Altho maximum prices have been established for most agricultural products, demand has been sufficiently vigorous to maintain prices at or near ceiling levels.

"Partly because of adjustment in loan rates, support prices, and price ceilings, it is expected that prices received by farmers will increase somewhat from present levels . . .

"Farm income probably will continue to increase in 1944."

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Victory Volunteers Sought

Army of 500,000 Youths Planned to Aid Farmers

By DICK THORNBURG

A "farm hand" army of 500,000 youths from high schools and colleges will be recruited soon to aid in the production of food this summer.

The youths, including some girls, will be organized by the U. S. Office of Education, a branch of the Federal Security Agency, and will be called Victory Farm Volunteers.

Most of them will live on the farms, work from a couple of weeks to several months, and be paid the going wage for inexperienced hands.

While the recruiting is in progress the Extension Service of the Agriculture Department will survey the 3000 counties in the nation to determine which farmers will want extra help, how many youths they will need, what for, and when. This information will be gathered by the Agriculture Department's county agents, by the County War Boards and farm organizations.

JOINT PROGRAMS

Then, starting in June, the two programs will be brought together, putting the required number of youths on the farms at the right time.

"This is not a program to give high school and college students a cheap vacation, nor is it a program to furnish the farmers with cheap help," said M. C. Wilson of the Extension Service. "It is a program to increase food production this year to hasten our military victory and to ease the shortage at home."

In counties where 25 to 75 students are working on farms, part-time advisers will be hired by the Agriculture Department to oversee the program, investigate the living conditions of the students, and in general to see that the city boys and the farmers get along harmoniously.

In counties where more than 75 students are working, full-time advisers will be hired—preferable retired farmers and teachers and others with experience in handling youths plus a knowledge of farming and farmers.

START IN JUNE

Mr. Wilson estimated that about 200,000 of the youths would work on the farms all summer, the others for short periods only. The program will start in June and continue for about five months.

In some states it is planned to have split vacations this year, school letting out early during the planting season, then resuming for a month or so and scheduling the rest of the school vacation during harvest time.

Programs will be arranged in schools to condition the students mentally and physically for farm life and to teach them some of the rudiments of farming—so that students won't ask farmers where the succotash is planted.

WILL BENEFIT YOUTHS

In a bulletin to high school, the Office of Education pointed out that a "summer's work on the farm will have a high educational value for town and city youth. Farm life is especially suited to develop such qualities as ready acceptance of responsibility, initiative, reliability and a healthy attitude toward work."

The Victory Farm Volunteers will be organized in private and parochial schools as well as public schools.

Wherever possible students will make tentative arrangements early to work on a specific farm, and spend a couple of week-ends there to become adjusted to farm life.

SPECIAL WORK FOR GIRLS

Girls will be employed in specialized jobs such as picking fruit, canning, vegetable gardening and the like.

The Extension Service, thru its paid advisers, will keep in touch with the youths and the farmers to adjust misunderstandings, assist in on-the-job training, help the young people adjust themselves to farm life, assure their participation in community social and recreational activities, and arrange for shifting workers where a change is desirable.

Doubly Val

Post 13 Apr 1943

Heads Women's Land Army



Associated Press Photo

TO AID FOOD DRIVE—Miss Florence Hall greeted with a smile the War Food Administration's announcement yesterday that she will head the women's land army of the United States Crop Corps. Since 1928, Miss Hall, a native of Michigan, has been extension service field agent for 12 Northeastern States

Post 5 Apr. 1943

3

N.A.M. Board Opposes Law To Draft Labor

By the Associated Press

New York, April 4.—Frederick C. Crawford, president of the National Association of Manufacturers, said today the N. A. M.'s directors opposed drafting of labor as "a serious departure from the principles of a free society."

The N. A. M. offered a detailed alternative as a solution to manpower problems and commented in a resolution:

"Free labor and free industry is the combination that has made and can preserve our American economy."

Production would suffer from labor compulsion, the N. A. M. said, "because there is no substitute for the initiative and willing effort of free men."

It suggested armed force size determined by military leaders, a congressional investigation of manpower and "greater utilization and more effective allocation of labor supply" as possible answers.

It also asked more widespread use of incentive plans, elimination "of any and all practices which restrict the fullest utilization of labor," reduction of absenteeism, lengthened work schedules, fewer Federal employes and greater cooperation among employers.

The division of industrial economics of the National Industrial Conference Board at the same time, said that the Nation's farmers faced this year's crop season with at least 125,000 fewer hired hands than in the 1935-39 period, while the number of farm family workers was more than half a million less than in 1935-39.

Farm Employment Lower

Total agricultural employment in February of this year was about 90,000 below the same month last year, the board said, and during January and February the figure averaged 8,410,000 compared to 8,527,000 last year, 9,069,000 during 1935-39, and 9,190,000 in 1929.

"This numerical reduction," the board reported, "has been accompanied by a sharply lowered level of efficiency per worker because of losses of skilled able-bodied farmers to the military forces and war industries, and their replacement by less experienced farm hands, women and youths below draft age.

"Due chiefly to unusually favorable weather conditions in 1942, the volume of agricultural production was 27 per cent greater than in 1935-39. With a working force almost 8 per cent below that of 1935-39—actually well below this percentage, if effectiveness per worker is considered—agriculture has been asked to better this all-time production record."

Farmers Favor Draft Revision to Preserve 'Hands'

While the farmer is being asked to produce more food this year than ever, he finds less farm labor available than ever to do the work. The seriousness of this problem, and the farmers' own ideas on how to solve it, are discussed in the following article, third of a series of six showing farm opinions today on wartime agricultural problems.

Post 2/14/43

By George Gallup

Director, American Institute of Public Opinion

Princeton, N. J., Feb. 13.—Wherever farmers congregate, the big topic of conversation today is the shortage of farm hands. From Waterville, Me., to Visalia, Calif., more than seven out of every ten farmers consider the labor shortage the most difficult thing about running a farm this year.

They are wondering what to do. A 40-year-old farmer who has been working a 700-acre farm in Uvalde, Tex., since 1925 is so hard hit by the labor shortage that he is, in his own words, "extremely disgusted with the dairy business" and would like to sell out. Others are pondering the same course.

Yet this year the Government needs, for war, all the milk the country can produce and more—and all the beef, hogs, poultry and other staple foods. Finding a solution to the farm labor shortage is obviously one of the top two or three problems of the war on the home front.



The average farmer has some definite ideas on how to solve the problem, and some definite reactions to various proposals that have been put forward. To get at those ideas and reactions, the Institute conducted a special survey among farmers on many aspects of the farm hand situation.

Two Findings

Its findings may be taken up under the following headings:

1. THE PROBLEM. Any observer will discover the vital importance of the labor shortage by asking farmers, as the Institute did: "What is the biggest problem facing farmers in this area today?"

Shortage of help received three times as many votes as all other problems put together. It totaled 77 per cent. Another 19 per cent named shortage of farm machinery and parts, while 8 per cent said lack of money or financing to keep the farm going was their chief worry, and the rest named lack of fertilizer, uncertain prices for produce, or too much regimentation and "bossing" by the Government.

the following survey question:

"What do you think should be done to meet the farm labor shortage?"

Defer farm hands from draft, leave experienced men on farms, stop drafting farm labor	**39%**
Obtain outside labor, especially from towns	**10**
Release soldiers who have been farmers, especially during busy season	**8**
Raise prices so farm labor can be paid more; make farm pay and industrial pay more equal	**8**
Freeze farm jobs so farm hands cannot go to war factories	**7**
Other	**10**

Women on Farms

3. Women Farm Hands. Since the Army has opposed any slow-down in recruiting, some experts have suggested that the solution to the farm manpower problem is the hiring of more women as farm hands.

The average farmer is cool to this idea. He thinks women are satisfactory for some of the smaller chores or tasks around a farm, but that for the heavy work of harvesting, planting or caring for livestock, women only "get in the way."

However, that attitude is by no means unanimous. There are a substantial number of farmers who believe the hiring of women will help them, as the following shows:

"It has been suggested that in order to meet the farm labor shortage problem, many women will have to take jobs on farms this summer. Would this help

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2. What the Farmers Propose. The average farmer feels rather strongly that some change in military draft policies must be made in order to keep men on the farm.

Want Furloughs

The largest number of farmers think the draft boards should defer trained farm hands in order to carry out the food production program. Many also think the Army should release soldiers who have had farm training. Senator Bankhead of Alabama was reflecting this sentiment when he urged recently that the Army release at least one million men to plant and harvest crops.

Farmers are, of course, also losing help to war factories, which hold out the lure of higher pay. But the average farmer is more inclined to blame his trouble on the draft rather than on the competition of war industries. Only about one-fourth (29 per cent) say they have lost help to war factories, while 40 per cent say their farm hands have been taken by the Selective Service draft. This varies, of course by sections, with the losses to war industries highest in areas containing war factories and lowest in places where there are few manufacturing centers.



The Questions

Farm ideas as to what should be done about the manpower shortage are shown in replies to the following survey question:

"What do you think should be done to meet the farm labor shortage?"

Defer farm hands from draft, leave experienced men on farms, stop drafting farm labor	**39%**
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However, that attitude is by no means unanimous. There are a substantial number of farmers who believe the hiring of women will help them, as the following shows:

"It has been suggested that in order to meet the farm labor shortage problem, many women will have to take jobs on farms this summer. Would this help you?"

Yes	**41%**
No	**54**
Undecided	**5**

The idea of having women farm hands receives least approval among farmers in the East and West Central sections (Ohio, Indiana, Illinois, Michigan, North Dakota, South Dakota, Kansas, Nebraska, Minnesota, Iowa, Missouri and Wisconsin). There only 28 per cent say employment of women would help them. The highest acceptance is found in the South (49 per cent) and Far West (42 per cent).

4. HIGH SCHOOL STUDENTS—Farmers are, however, inclined to look favorably on the dea of hiring more high school students in summer to do farm work. If the Government promotes such a program, it is likely to find substantial acceptance from the farm areas.

"It has been suggested that high school students be given jobs on farms this summer. Would this help you?"

Yes	**56%**
No	**38**
Undecided	**6**

5 LONGER WORK HOURS FOR FARMERS—Still another proposal put forward is that farmers can alleviate the labor shortage, at least in part, by working longer hours themselves.

Apparently the average farmer does not consider such a program feasible.

WOMEN TO DO FARMING

Some 60,000 Are to Be Sought to Join the Crop Corps

WASHINGTON, April 10 (AP)—The United States Crop Corps, which is being organized to help meet the labor shortage on farms, is to include a women's unit of about 60,000 city and town women.

The food administration, reporting this today, said about 10,000 would be enrolled for year-'round farm work and 50,000 for seasonal work for one month or more.

A uniform is being designed for them. Women enrolled in the unit must be at least 18 years old and must furnish a doctor's certificate of physical fitness to do hard work.

All told, the administration said, about 360,000 women are expected to be enrolled for farm work, but 300,000 of these will be placed by county agricultural agents for short-time emergency jobs on farms.

Women placed on farms for all-year work will receive training in courses offered by agricultural colleges or similar institutions or equivalent training on the farm.

D. C. Woman Chosen to Head New Women's Land Army

The War Food Administration announced today the appointment of Miss Florence Hall as head of the Women's Land Army being formed to help meet the farm labor shortage. She has been with the Agriculture Department here for 15 years.

At the same time, the WFA disclosed that responsibility for the women's army, expected to total some 60,000 women, had been assigned to the department's Extension Service and State agricultural colleges.

Recruits will come from cities and towns and they will comprise a portion of the United States Crop Corps of some 3,500,000 farm workers needed to help in harvesting crops this year.

Miss Hall, a native of Port Austin, Mich., has been an extension field agent for the Northeastern States since 1928, and has supervised the service's wartime programs of nutrition and home food supply. The announcement said she had been in close touch with the American Women's Voluntary Services program for women farm workers here and in Maryland.

She is a graduate of the Michigan Agricultural College and has received an honorary degree in home economics there. She also attended Teachers' College at Columbia University.

Plans call for recruiting in cooperation with the United States Employment Service, local civilian defense councils and women's organizations. Of the 60,000 about 10,000 are expected to enroll for year-round farm work and about 50,000 for seasonal work of one month or more.

A uniform is being designed for the women by specialists in the department here.

MAJORING IN PEAS

A Group of Brooklyn College Students Begins an Experiment in Education

NYT 9/5/43

By BEATRICE MEYERS

MORRISVILLE, N. Y.

MAJORING in green peas and string beans, with supplementary courses in such academic subjects as English composition and political science, 150 Brooklyn College students are experimenting with a new kind of education in a small up-State village this summer. Quartered on the campus of the Morrisville Agricultural and Technical Institute, the college corps, the first of its kind, spends its days harvesting crops on Madison County farms. In the evenings the boys and girls—80 per cent of the number are girls—go to class.

Familiar to them until a week or two ago only as part of the blue plate special or the vegetable dinner, peas and beans now compose the chief topic of student conversation. The undergraduate newspaper is called The Bean Stalker. Theme song for the group is a little ditty beginning "I think that I shall never see a plant repulsive as a pea," while still another song declares that "If I die in Morrisville, I'll leave you green peas in my will."

Old Hands Already

Griping, as in the Army, is prevalent, but not even the worst gripers complain seriously. The students are enthusiastic about their work and about their new way of life. In unmistakable city accents they call across the fields, comparing notes on quantities picked. They remind one another that it takes 3,000 pods to fill a bushel basket. And they look ahead to the next section of field, where the yield is expected to be heavier.

Already they feel like old hands at harvesting, although they admit that the first week it seemed that they were going to have to pay for the privilege of picking peas. At the rate of 50 cents a bushel, they are now making enough to cover room and board, and in another week or two most of them hope to be showing a profit. The girls exhibit "our new shade of nail polish —the good earth." They brag that most of the muscular aches and pains they were warned about have failed to materialize.

Divided into ten teams, the students compete on a group and an individual basis for awards made at the end of each week for the greatest number of bushels picked.

Communal living and constant association with their classmates are new to most of the students. Girls who in Brooklyn merely scurried past each other in the college corridors now share rooms. "Bull sessions" in the dormitories and lounging on the lawns of the institute's campus in the long twilights have quickly cemented friendships. For the first time, too, they have a chance to meet their instructors away from the academic desks. At least two members of the faculty go out to the fields with the students every day.

Brooks and Helyar Halls are the girls' dormitories. Helyar is a former county jail, converted by the institute after the county seat was moved away from Morrisville. Helyar girls are fascinated by the history of their dormitory. The Bean Stalker, in its first issue, published the following verse, proudly entitled "Pome":

"I wish I were in Helyar,"
The cheerful Brooks girl said;
"I sure wish I could sellya
My double decker bed.
No screens are on my windows,
No pillo neath my head,
I wish that they had put me in
The county jail instead."

Classes are held four nights a week, beginning at 7:30. No cutting has been reported. Faces, sunburned and peeling, are alert. Discussion is brisk. Pencils and pens hover over notebooks, ready to jot down each word of wisdom. The general feeling, expressed by one co-ed, is that "it's wonderful to be able to look out of a classroom window and see tree-covered hills and green meadows."

Work is done in three divisions. There are correlation courses in farm biology, geology and rural sociology, war service courses in military topography and navigation and required courses, chiefly for freshmen and sophomores, in English composition and literature, political science, sociology and mathematics. All courses carry regular credits toward graduation and follow college regulations regarding registration, attendance and quality of work. Next fall, when the term begins there will be lighter programs and more time for voluntary war work for the girls.

Town Meetings

Friday evening assembly is taking on the appearance of a town meeting. Townsfolk and farmers join in the discussion. Generalizations, such as "the agricultural situation" and the "farm bloc," are becoming vivid realities as the farmers explain their problems.

Students sit in on Morrisville's town meeting, too. Community churches have been thrown open to the Brooklyn youngsters, as have the square dances held in the Morrisville Grange Hall. City girls, better versed in the rhumba or conga, discover themselves pulled into the sets, allemanding left and right, and being swung, with a vengeance, by their partners. "They're awfully kind," the girls chorus. "They explain all the steps and don't laugh when we make mistakes. Kids in the city wouldn't be so nice."

As energetic as they are enthusiastic, the students have no time to be tired. Returning to the institute after a day's picking, loaded in huge red trucks, they sing as spontaneously as they did when they left for the fields at 7:30 in the morning. Many of them hike the mile to Electric Pond for a quick dip before dinner. When they have a free moment, they find an instructor and take a stroll, stopping in at farms along the way to visit the farmers and their families.



In daytime students, quartered at the Morrisville (N. Y.) Agricultural and Technical Institute, harvest crops.



The New York Times Studio

Classes begin at 7:30 P. M. Girls make use of the dormitory steps for finishing homework and for writing letters.

Land Army of 60,000 Women Planned

Robert 4/11/43

A uniformed land army of approximately 60,000 women recruited from cities and towns to perform a minimum of one month's work on the Nation's farms this season was announced yesterday by the War Food Administration.

About 10,000 of the women will be enrolled for full-time jobs requiring year-round employment, the announcement said. These will receive from 3 to 6 weeks' intensive training either in schools or on the farm and must have doctors' certificates to prove their ability to do hard work.

In all, according to WFA, 360,000 women will be placed on farms to help meet the labor shortage crisis this summer—but 300,000 will be recruited locally in rural areas or placed by county agricultural agents for short-time emergency jobs.

Won't Wear Uniform

These workers, who will include many women who can spare weekends or only a few days at a time, will not be eligible to wear the Women's Land Army uniform, which is being designed to withstand real work and dirt—and without any markings for "staff sergeants," "leaders," etc.

Miss Florence Hall, who has been with the Department of Agriculture's Extension Service for several years, has been working with WFA to plan the army and will head the organization.

The Women's Land Army will be part of the United States Crop Corps, funds for which are provided in a farm labor bill that has passed both the House and Senate but has gone to conference for an adjustment of details.

House and Senate conferees will meet on the bill Tuesday at 2 p. m., Representative Cannon (Democrat) of Missouri said yesterday.

The women will be paid by the farmers and draw prevailing wages of the area to which they are assigned. Transportation costs and shelter may be provided by the Government in some instances, however.

Members of the Army must be at least 18 years of age and all prospective recruits are advised by WFA to "await the local call."

WOMEN'S ACTIV

LAND ARMY LAUNCHED

Its Leader, Who Is Both Rural and Urban, Sees Town and Country Aiding Farms

By NANCY MAC LENNAN

WASHINGTON.

MISS FLORENCE LOUISE HALL is as urban as her stylish earrings, as rural as her small home town, Port Austin, Mich. She is the very symbol of that unity of farm and city, which she believes must and will underwrite her Women's Land Army of the United States Crop Corps.

Announcement of her appointment as head of the Women's Land Army—still in the process of creation by Congress—was made on Monday by the War Food Administration of the Department of Agriculture. Since then, the office of this senior home economist in the department's Extension Service, which, with the State Agricultural colleges, shares responsibility for the WLA, has been "bombarded" by press, radio and motion picture representatives, crowding Miss Hall's engagement calendar to the last minute. This has not seriously disrupted the business of her new position, since not only the WLA but the entire farm labor program remains in a state of abeyance, awaiting final Congressional action.

Homespun and Chic

The leader of the uniformed feminine portion of the nation's farm start, because its administration is decentralized, they should apply to one of the county agents of their State Extension Service.

The WLA is the feminine section of the United States Crop Corps, which is projected as "a mobile, migratory land army" to counteract the dearth of farm labor and expected eventually to total 3,500,000 workers, including high school youths and transported farm workers. The women's division will number 360,000 in all.

Women in Uniform

Only 60,000 of the feminine group, however, will compose the Women's Land Army and wear the comfortable "sloppy but swagger" blue denim uniform. Of this number 10,000 will be permanent, year-round "hands," living on the farms where they work. Fifty thousand more will enroll for a period of one month or more, working briefly to harvest "flash" crops—perishable fruits and vegetables requiring quick handling to prevent spoilage. They will be housed in available camp facilities, such as those of the Y. W. C. A. or CCC.

The other 300,000 feminine farm workers will wear armbands designating them as members of the United States Crop Corps. Their

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Homespun and Chic

The leader of the uniformed feminine portion of the nation's farm help is a rare combination of the homespun and the chic. Antiques accent her Washington apartment, and gay wallpaper-covered file boxes her office in the South Agriculture Building. Color and sophisticated line may distinguish her apparel, but she herself is strictly "small-town," she asserts.

Miss Hall knows farming from many angles. In the first place, her family owned a farm. As she grew up typical odd jobs she found were selling milk and working in a canning factory. Although she was a high-school mathematics teacher at Lansing, Mich, her education had focused on home economics, at Michigan State Agricultural College and at Columbia University. She received an honorary M. A. in her field from Michigan.

In 1917 she became an agricultural agent for Allegheny County, Pa., to teach women the familiar lessons of World War I, "meatless and wheatless" recipes, canning and clothes conservation. After four years as county agent, she spent 1922 to 1928 in the Agriculture Department's Dairy Bureau, traveling in thirty-two States to organize "milk for health" campaigns. Since then, as senior home economist in the Extension Service, she has worked with farm women and the service's county agents in twelve Northeastern States, supervising rural home-demonstration work and leading discussions with ideas she exports from Washington.

'How' and 'Where' Queries

Women, mainly government girls, who keep Miss Hall's telephone singing with queries on "how" and "where" to enlist in the WLA are told the program probably will not start for two weeks at least, and that when it does youths and transported farm workers. The women's division will number 360,000 in all.

Women in Uniform

Only 60,000 of the feminine group, however, will compose the Women's Land Army and wear the comfortable "sloppy but swagger" blue denim uniform. Of this number 10,000 will be permanent, year-round "hands," living on the farms where they work. Fifty thousand more will enroll for a period of one month or more, working briefly to harvest "flash" crops—perishable fruits and vegetables requiring quick handling to prevent spoilage. They will be housed in available camp facilities, such as those of the Y. W. C. A. or CCC.

The other 300,000 feminine farm workers will wear armbands designating them as members of the United States Crop Corps. Their service will be given during weekends or for a week or so at a time, as their vacation intervals permit.

Year-round registrants will be put through the varied courses necessary to give them background for permanent farm work. The Extension Services of the State Departments of Agriculture, the agencies which most closely touch the farm family (bringing advice about soil, crops or news of the latest developments in scientific farming) will plan the curricula under the general direction of the United States Department of Agriculture.

Voluntary Enrollment

Membership in the Women's Land Army will be by voluntary enrollment, according to arrangements to date. Details of the regulations that will govern its organization remain to be determined, it was stated yesterday by S. R. Shapley of Ithaca, who will be coordinator in New York State for the agencies sponsoring the corps.

The probability is, Mr. Shapley believes, that volunteers in the suburban areas will enroll at the office of the County Farm Bureau, and in metropolitan districts, at the United States Employment Service.

Farmers will pay workers of the WLA according to qualifications. The first year many recruits undoubtedly will be considered "unskilled" and earn accordingly. Figures released Wednesday by the Department of Agriculture show that on April 1 average farm wages ranged from $29.14 per month with board in the Eastern South Central States to $104.99 per month with board in the Pacific States. Throughout the country the average farm wage per month with board was $56.84; without board $67.21.



Sixteen-year old Blanche Udren of New York, a sophomore at Sarah Lawrence, says she likes farm work because it "gives me a stake in the war."

U.S. Crop Corps

New York College Girls vs. Weeds . . . An Eyewitness Report From the Food Front

By Sally Winograd
Staff Correspondent

FARMINGDALE, N. Y., July 2.—One of the first things you realize after becoming a member of the U. S. Crop Corps is that life—and work—on a farm isn't the lark the slick paper magazines make it out to be.

Out here on Long Island, truck-gardening center, where farmers have had to plow under crops for want of help to weed and harvest them, it took us only one day to learn that we were in for some really tough, dirt-grubbing work.

We—a group of 20 New York City college girls and myself—arrived here at the New York State Institute of Agriculture on a Sunday afternoon, loaded down with playclothes, tennis rackets, bathing suits, and a couple of pairs of dungarees. We found out soon enough that we could discard everything but the dungarees.

Day Begins at 6

This is what a day on the farm (Summer, 1943) is like:

At 4:30 next morning the Land Army, quartered in the dormitory on the floor below us, clattered out to the barns to do their milking chores. At 5:30 we heard a rooster—our first—crow. At 6, all fresh and rested, we got up and faced our first day of farm work expectantly.

Little did we know.

After we had breakfasted and been warned to wear long-sleeved shirts (which I didn't), we joined our farmers, to whom we had been assigned by the United States Employment Service representative in charge of the group.

Four of us went to work for the Albers Bros. truck farm, just outside Farmingdale. At 8 we were in the field weeding and thinning a beet patch that should have been weeded at least a week before. By 12 we had finished our allotted three rows.

That first day we were so tired we could barely nibble at the lunch the college had provided for us, and try to stretch out of the pretzel shapes that four hours of weeding had twisted us into. There's no way to describe weeding. You have to do it to understand. But it's not a highly skilled job. You just pick what there's most of, and those are the weeds. As a members of the Crop Corps, let me add, your job, for the early part of the season, anyway, consists mainly of weeding. Later on there'll be harvesting, which is a whole lot easier, they tell me.

After an hour of thinking how nice it would be back in the city, we were at work again. We were hoping for a change, in the remaining four hours, but no—there were more beets, these not quite so well developed, to be done. I've been on other farms since the first day, and weeding even became kind of fun, but I still dream about those beets.

At five, our dirt-stained faces streaked with sweat, stiff and sore as only the first day of farming could make us, we were driven back to the school. My arms, without shirtsleeves to protect them, were already burnt. I dropped a quarter near my bed that night, but it was two days before I could bend down to pick it up.

Because girls in the Crop Corps are usually sent out in groups and quartered together in a convenient house or school, night life on the farm is something like being at a girls camp or dormitory. Excitement is rarer, and, as a rule, there's only one free night a week.

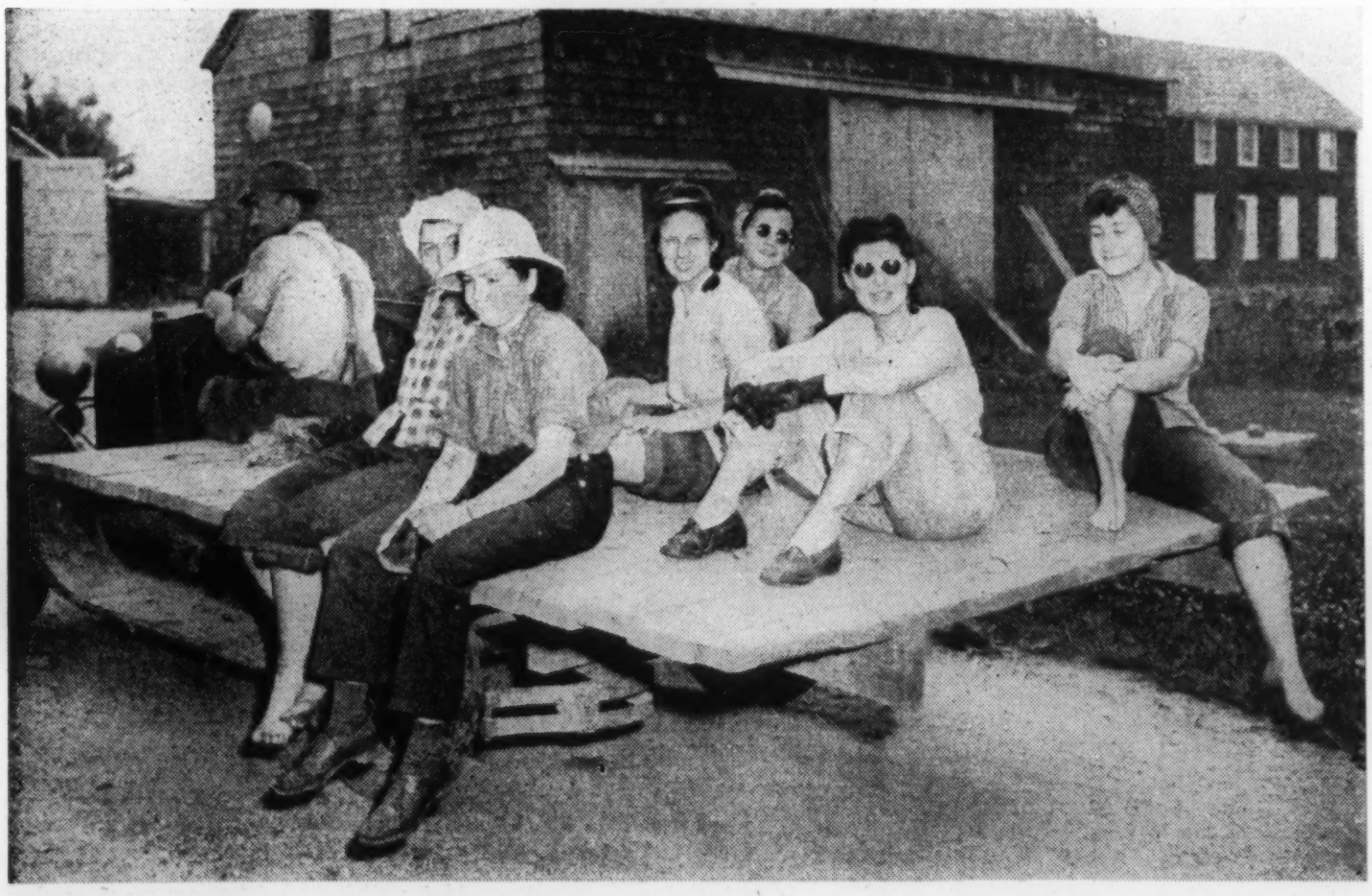
The Simple Life

So, like the boys in the Army, we spent most of our time writing letters, reading, listening to the radio, or talking. It may sound a little dull, but actually it was fun. Occasionally there's a night ball game or a barn dance to break the routine, but you find you don't really have the energy for the gayer life.

You learn other things on a farm besides weeding and picking. You learn that a farmer isn't just a guy with chin whiskers and a daughter, but rather, this year, a worried business man who's apt to be a little more interested in getting his crops in than in whether or not you're overworking.

Then too, you learn, if you never knew before, what it's like to work with your hands. Farming with the Crop Corps brings in an average of $3 a day or less, and room and board costs an average of $10 a week. And when it rains, there's no work. So you learn to live on little, which is easier on the farm than in the city.

But most of all, you learn that by helping the farmer you're helping yourself. The farmers I've spoken to have all told me the same thing. Their trained farm hands are in the Army or in war plants. Their crops are rotting in the field for want of men to work them. The fewer crops harvested, the less there'll be to eat.



The farm was so big we had to travel by truck from one end to the other. Farmer Albert Schmitt, at the wheel, thought the Crop Corps girls were working out fine because "they really want to help."

Shops Stormed as Poultry Strike Cracks

Pickets Persuade Some Stores to Shut Down Again; Ceiling Summonses Issued

The kosher poultry strike cracked yesterday after a 10-day shutdown throughout the City. In many parts of New York, long lines of housewives tried to buy poultry when the news spread that some stores had chickens for sale. For the most part, they were disappointed

Here's what was happening throughout the City:

¶ Skirmishes between butchers and strikers occurred in Manhattan and Brooklyn. Some windows were broken, but there was no serious damage.

¶ Markets Dept. inspectors issued summonses for over-ceiling prices. In Brighton Beach, a woman inspector was hurt by a butcher who tried to recover a chicken when the inspector displayed her badge.

¶ Eighty per cent of the stores in the Bronx were selling poultry.

¶ Bands of organized pickets--butchers who charge they can't buy poultry at ceiling prices--paraded before butcher shops and chicken dealer stores doing business.

Jack Kranis, attorney for the City-Wide Committee of Kosher Butchers and Poultry Dealers of four boroughs (minus the Bronx), said many stores had thought the strike officially ended. As soon as pickets told them it was on, they returned the birds to slaughterers and closed down, he said.

Markets Commissioner Woolley, in line with the plan of the shut down to break the black market, continued investigating slaughter houses selling above the ceiling price. He suspended the license of Doar Panesh, 626 Westchester Ave., the Bronx, for two days a week (Monday and Tuesday) from July 5 through July 27.



Clerk carries undressed poultry into Sam Goldberg's market at 5010 Church Ave., Brooklyn, as picket (right, holding paper) urges crowd not to buy.
Photo by Arthur Leipzig, PM



Policeman helps keep waiting customers in line to buy live poultry at M. Binder & Sons' market at 153 Ave. D on the lower East Side.



Inside the Binder market clerks hold up live ducks and chicken for inspection of housewives who came early, but didn't avoid the rush.
PM Photos by Weegee

Accord Reached On Laundry Pay

Subject to approval of the War Labor Board, laundry employers' associations and the Laundry Workers' Joint Board, Amalgamated Clothing Workers of America, CIO, today agreed on:

¶ Wage increases ranging from 4 to 10 cents an hour.

¶ Minimum weekly guarantees of $20 and $21.

¶ Weekly bonuses of $1 for regularity of work.

The agreement covers 25,000 workers in the metropolitan area. It was reached after the War Manpower Commission had defined laundries as an essential industry.

The union's program, which includes introduction of a "victory bundle," eliminating laundry frills and prevention of pirating of workers, was referred to the industy's labor-management committee.

Postwar Planning For Jews Urged

James N. Rosenberg, chairman of Agro-Joint, which has helped settle 300,000 Russian Jews on farms, urges constructive planning by the United Nations for "solving of the Jewish problem" after the war.

At a reception last night at the Astor for Prof. Solomon Michoels and Itzik Feffer, official delegates from the USSR, Rosenberg said Russia had proved its aim with "deeds, not words."

By Albert Deutsch:

Quinine Trust

Wallace-Jones Fracas Points Up Monopoly Evil

Vice President Wallace's blast against Jesse Jones for delaying efforts to build up adequate stockpile of quinine to protect our armed forces in malarial regions should focus attention on the fundamental evil--the combination of malaria and monopoly that created the problem in the first place. Neither the quinine trust, nor any other drug monopoly should be tolerated henceforth.

If it hadn't been for the stranglehold on the quinine supply maintained by a world monopoly, the problem of building up a stockpile needn't have appeared. The supply, distribution and sale of quinine was controlled and restricted by the Dutch Quinine Syndicate, with the active collaboration of drug trusts in other countries including ours. They kept production low, prices high.

Victims Died Needlessly

When an estimated 800,000,000 persons throughout the world were suffering from malaria, the drug trust was supplying only enough quinine to treat about 50,000,000 cases a year, aside from its other medical uses. One million people in India alone were dying annually of malaria. Many thousands of deaths could have been prevented if quinine had been available at prices within the reach of the poor.

The Dutch trust carefully guarded the secret of successful cultivation of the cinchona tree in Java, source of nine-tenths of the world's quinine supply. Before Java and its precious quinine source fell to the Japs early in 1942, the U. S. A. had built up a stockpile of several million ounces of the drug--enough, authorities said at the time, to last for about two years.

But the stockpile would have been exhausted long since, under abnormal war conditions, had it not been for the development and wide use of atabrine, a coal-tar derivative, as a substitute in treating malaria.

Atabrine Supply

Atabrine, in turn, until 18 months ago, was controlled by the German chemical trust, I. G. Farben, with Sterling Products as its American outlet. Now the American patent is in American hands. Two drug houses, Winthrop and Merck, are manufacturing enough to treat 80,000,000 cases a year. The U. S. A. has become the main source of anti-malarial drugs for the United Nations.

Winthrop controls the American patent for atabrine. Through arrangement with the U. S. Government, it is allowing the other firms to manufacture it, royalty free, for the duration of the war. Some leading anti-trusters have insisted that atabrine and other drugs formerly under Nazi patent control should be freed for general manufacture among firms, without restriction as a health-protecting and price-lowering measure.

There has been much controversy over the relative merits of quinine and atabrine in treating malaria. The consensus of medical opinion sounded by this writer says that quinine is generally more effective, but atabrine is a good substitute. Neither prevents malaria; neither is a certain cure.

The value of atabrine has been grossly overplayed by some commentators, notably by Paul De Kruif in his article in a recent issue of *Reader's Digest*, entitled *Enter Atabrine, Exit Malaria!* Sheer nonsense. Malaria, as the current *Journal* of the American Medical Assn. points out, still is "probably medical war problem No. 1."

The War of Words Spreads Over Enslaved Europe

By Leon Edel

PM Exclusive

This is how the OWI brought Vice President Wallace's "Century of the Common Man" speech to the enslaved countries. The leaflet (➤) containing the Wallace speech and one by Anthony Eden, was dropped over France and was sent by an American soldier in North Africa to his girl here. He wrote: *"This was picked up in France and given to me by a French soldier who escaped to North Africa. Note how he has carefully preserved it."*

The leaflet in Italian (➤) explains that we do not hate the Italians and that we bomb them to drive the Germans from their soil. The inside pages of the leaflet contain quotes from Wallace and Churchill.

Also on this page can be seen evidence of the sort of thing PM's fictitious anti-Nazi Vic Jordan has been up against: underground moves sponsored by the Nazis to rival the legitimate underground. *L'Ouvrier Normand*, modelled on bona fide underground papers, is a Nazi product. Most of its propaganda is transparent, as when it advises Frenchmen to refrain from sabotage since women and children are sometimes victims.

Apporte par vos amis de la R.A.F.

Le Courrier de l'Air
Supplément Spécial

Distribué par les patriotes français

"Le maintien de la paix est un probleme fondamental."
Anthony Eden.

"Nous devons construire une paix charitable juste et durable."
Henry A. Wallace.

Le Monde d'après guerre

PARMI les projets étudiés constamment par les chefs politiques des Nations Unies, nul n'est plus au premier plan que celui qui a trait à la reconstruction mondiale après la victoire totale.

Depuis bientôt trois années, le cataclysme déchaîné

Les peuples libres rejettent avec mépris l'Ordre Nouveau d'Hitler.

Inspirés par la Charte de l'Atlantique, leurs dirigeants ont exposé, à commencer par Churchill et le Président

This is the front of OWI leaflet: *The Air Mail Special*.

"NOUS DEVONS CONSTRUIRE UNE PAIX CHARITABLE, JUSTE ET DURABLE"

affirme Mr. Wallace

Mr. Henry A. Wallace s'addressant à l'Association du Monde Libre a déclaré:

LA guerre actuelle est un conflit entre un monde esclave et un monde libre. L'idée de la liberté — cette liberté que nous connaissons si bien et que nous aimons tant aux Etats-Unis — vient de la Bible qui souligne la dignité de chaque être d'une façon si remarquable.

"La démocratie est la seule véritable expression politique de la Chrétienté. Les prophètes de l'Ancien Testament furent les premiers à prêcher que les hommes ne pourront pas rester libres tant qu'ils n'auront pas une nourriture abondante et le temps et la possibilité de lire, de réfléchir et de discuter. Mais dans les pays qui n'ont que récemment appris à lire et à écrire, ou dans ceux qui n'ont que peu d'expérience dans l'art de se gouverner eux-mêmes sur la base de leurs propres pensées, il est aisé aux démagogues de s'élever et de prostituer l'esprit de l'homme moyen à leurs propres viles fins.

"Herr Thyssen, un riche magnat de l'acier, ne se rendit pas du tout compte de ce qu'il faisait lorsqu'il donna à Hitler une somme suffisante pour permettre à celui-ci de manier l'esprit du peuple allemand. Le démagogue est le fléau du monde moderne, et, de tous les démagogues, les pires sont ceux qui ont été financés par des hommes bien intentionnés qui croient sincèrement que leurs richesses seront plus en sécurité s'ils prennent à leur solde des hommes possédant ce "je ne sais quoi" politique, qui changeront les poteaux indicateurs et entraîneront l'humanité de nouveau vers le pire des esclavages. Malheureusement pour les hommes riches qui financent des mouvements de ce genre, ainsi que pour les



Mr. Henry A. Wallace, Vice-Président des Etats-Unis

An inside page of the leaflet: note clearness of type.

ITALIANI!

NOI abbiamo bombardato i vostri porti e le vostre industrie che lavorano nel solo interesse della Germania. Noi bombarderemo senza tregua quegli obbiettivi fino al giorno in cui l'Italia separerà il suo destino dalla guerra dei TEDESCHI.

Noi non odiamo il popolo italiano. Noi combattiamo solo contro i vostri gerarchi fascisti che hanno identificato il vostro paese con la Germania nazista.

A conferma dei nostri sentimenti il popolo italiano puo' leggere nell'interno di questo manifestino gli estratti dei discorsi tenuti dai ministri responsabili dell' America e dell' Inghilterra.

Voi constaterete che noi non abbiamo per nulla l'idea di punire, salvo i vostri capi che hanno avvilito l'Italia.

ITALIANI!

Voi avete provato il peso delle nostre bombe. Altre seguiranno. E' a voi la scelta tra la pace che noi vogliamo portarvi e la distruzione che i TEDESCHI ED I FASCISTI provocano sulle vostre città e su voi.

Noi abbiamo fiducia nel popolo italiano, ma noi siamo decisi ad annientare per sempre tutti i vostri capi fascisti che hanno disonorato il popolo italiano.

Italians: Get rid of the Germans and Fascists!

And Here Is a German Imitation . . .

Bl-M. 8 Rouen E 6/21

L'OUVRIER NORMAND

N° 2 9 DECEMBRE 1941.

Quelques vérités sur l'Allemagne

On en a tant raconté, que la lettre reçue par un de nos amis de la rue Jeanne-d'Arc à Rouen, et dont nous publions quelques passages, rétablit la vérité !

Certains passages de cette lettre sont terribles pour quelques membres du monde ouvrier ; ils sont malheureusement exacts et si nous les publions, c'est que nous voulons montrer le tort qu'ont pu faire à la classe ouvrière française les énergumènes qui tenaient « la rue » en France entre 1936 et 1939.

TOUR D'HORIZON

Si nous parlions un pou du GAULISME

On en parle beaucoup, sans trop en connaître, par les bobards de la radio ou glanés surtout, bobards que l'on colporte, que l'on grossit à plaisir pour paraître être mieux informé, ce passe : Pendant ce temps, ouvrier français, on te matraille dans les champs, sur les routes, dans ton travail, c'est ainsi que ces jours derniers, près de Lille, les bombardiers en [illegible] des batteries

ASSASSINS

On a pu lire dans les journaux du 25 novembre : « Dans l'après-midi du 22 novembre, deux avions britanniques, profitant des nuages très bas, ont survolé l'embouchure de l'Ouse. Apercevant quelques barques utilisées par les habitants pour transporter leurs récoltes, ou débouché du canal, les aviateurs ont tiré. Résultat : 7 morts et six blessés graves ».

This looks like a French underground paper, but it was printed by the Nazis, contains not too subtle propaganda for the German cause.



Our second day out on the farm was made easier by this job, weeding in the hot box, and we decided parsley was a welcome change from beets. The hot box, or cold frame, has a glass top over it in the winter to protect the young plants before they're transplanted.



We had an hour for lunch, provided by the college, and usually sandwiches, fruit, cake and milk, which stayed cold in the farmer's refrigerator until we were ready for it. For the rest of the time we just stretched out in the shade and thought of home.

Photos by John De Biase, PM

9/29/43

PROGRAMS FOR THE EMPLOYMENT OF YOUTH IN WARTIME AGRICULTURE--1942

State and Local Planning During 1942 for the Agricultural Employment of Nonfarm Youth--
A Report of Experience in Four States

by
Savilla Millis Simons,
Children's Bureau, U. S. Department of Labor

Role of the Schools in Emergency Employment of Nonfarm Youth in Wartime Agriculture

by
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U. S. Office of Education, Federal Security Agency

U. S. Department of Labor
Children's Bureau
July 1943

TABLE OF CONTENTS

	Page
Foreword	2
State and Local Planning During 1942 for the Agricultural Employment of Nonfarm Youth--A Report of Experience in Four States, by Saville Millis Simons, Children's Bureau	4
Planning required for mobilization of young workers	6
Planning for use of student labor in California	7
State-wide planning	7
Planning and conduct of programs in local communities	15
Need for executive services for State and local organizations	21
State programs based on legislation	22
State program in New York	22
Program in New Jersey	30
Washington	35
Lack of a comprehensive State program	35
Recruitment of school children in a local community	35
Work-camp project	36
Relationship of private agencies to over-all community planning	37
The Role of the Schools in Emergency Employment of Nonfarm Youth in Wartime Agriculture, by Dr. F. W. Lathrop, Office of Education	39
Local committee service	39
Determining working and living conditions	39
Recruitment	40
Training	40
Selection	42
Group supervision	42
Parents	42
School plant	43
Follow-up	43
Other school participation	43

FOREWORD

In the summer of 1942 it was apparent that boys and girls would be used to an increasing extent to meet wartime labor shortages on farms. It was also evident that 1942 would be only a precursor of what could be expected in 1943 in the extent of employment of young people in agriculture.

For this reason, the Children's Bureau, together with the Office of Education and the United States Employment Service of the War Manpower Commission, decided to make such surveys of the development of programs for handling the employment of inexperienced young people in agriculture as were feasible with available staff, in order to have a basis for evaluating the experience of the season and to point up the lessons of that experience for use in 1943. A plan was accordingly developed by the Children's Bureau, the Office of Education, and the United States Employment Service for undertaking joint inquiries into these programs. The United States Employment Service was to collect information from its regional offices, especially on the extent to which young people under 18 years of age were employed in farm work during 1942. The Children's Bureau and the Office of Education were to make brief field surveys of experience in the use of youth on farms in different parts of the country where young people were employed extensively as a result of wartime farm-labor pressures. The agencies collaborated in planning these surveys, including the type of information to be obtained, sources of information to be used, and the selection of areas for study.

That the problem was large was shown by the reports received by the United States Employment Service from the regional offices of the War Manpower Commission. About 800,000 boys and girls under 16 years of age were reported to have worked at agricultural labor during the school vacation period--including apparently some but not all children at work on their home farms. Many were engaged in berry and fruit picking, in vegetable cultivation and harvesting, corn detasseling, cotton picking, and thinning and topping of sugar beets; others worked on dairy farms and at general farm work.

The information obtained through the inquiries made by the three agencies has been used by them in developing plans for the placement, training, and supervision of youth in wartime agriculture. The development of plans for the training of young people as emergency farm workers has been based in large part on the findings of the Office of Education. The Children's Bureau findings have been used in particular by its Advisory Subcommittee on Young Workers in Wartime Agriculture. A preliminary report of the Bureau's observations, drawn chiefly from the survey, was prepared for the use of this subcommittee at its November 1942 meeting, under the title Observations on Emergency Programs for the Employment on Farms of Workers Under 18 Years of Age, Summer and Fall, 1942

(now available from the Bureau in mimeographed form). The results of the surveys and inquiries of the three agencies, as well as the conclusions of the Conference on Supervision and Employment Conditions for Young Workers in Wartime Agriculture called by the Children's Bureau in June 1942, and the report of the subcommittee made at its November 1942 meeting have been used in the preparation of Guides to Successful Employment of Nonfarm Youth in Wartime Agriculture. 1/

Reports are here presented of the Office of Education and the Children's Bureau. The Role of the School in Emergency Employment of Nonfarm Youth in Wartime Agriculture presents the highlights of the observations of Dr. F. W. Lathrop, Office of Education, Federal Security Agency, and is based on field surveys made by him and by school officials under his supervision.

The report State and Local Planning During 1942 for the Agricultural Employment of Nonfarm Youth presents in some detail the development of programs and activities in the employment of young people in agriculture for selected States in which studies were made by the Children's Bureau--California, New York, New Jersey, and Washington--with particular emphasis on the development of State and local plans. The field work on which this report of the Children's Bureau is based was carried on by Mrs. Savilla Millis Simons, specialist in industrial research in charge of the special studies unit of the Industrial Division, and the regional child-labor consultants of the Industrial Division for the northeastern and the western regions, Mrs. Louise Q. Blodgett and Mary B. Perry, with the assistance of Ione L. Clinton and Miriam E. Fuhrman of the Industrial Division. The studies were planned and the report written by Mrs. Simons with the assistance of Miss Clinton.

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1/ Children's Bureau Publication 290, 1943. This leaflet was prepared by the Children's Bureau in consultation with the U. S. Department of Agriculture, the Office of Civilian Defense, the Office of Education of the Federal Security Agency, and the War Manpower Commission, and has the approval of these agencies.

STATE AND LOCAL PLANNING DURING 1942 FOR THE AGRICULTURAL EMPLOYMENT OF NONFARM YOUTH--A REPORT OF EXPERIENCE IN FOUR STATES

By

Savilla Millis Simons
Children's Bureau

The June 1942 Children's Bureau conference, which prepared the report Safeguarding Young Workers in Wartime Agriculture, recommended that the experience with the employment of nonfarm youth during the 1942 season be studied by agencies participating in the conference. It was the hope of the conference that this experience could be taken full advantage of in making plans for 1943. It was suggested that national private agencies that conduct work-camp and other projects involving the employment of youth in agriculture should, insofar as possible, analyze their experience with these projects and make a report at the end of the year. This has been done to a very large extent, and many agencies have issued valuable reports on their experience with projects during 1942.

It was further suggested by the conference that some more inclusive study be made by Federal agencies of the 1942 experience. Accordingly, joint inquiries were made by the Office of Education, the United States Employment Service of the War Manpower Commission, and the Children's Bureau of the 1942 experience. This report and Observations on Emergency Programs for the Employment on Farms of Workers Under 18 Years of Age, Summer and Fall, 1942, are partial presentations of the findings. It was agreed that in the surveys of the Office of Education and the Children's Bureau an attempt would be made to evaluate the extent to which the recommendations made by the June conference and included in the report Safeguarding Young Workers in Wartime Agriculture had been put into practice and had proved practicable and effective.

Members of the staff of the Industrial Division of the Children's Bureau made fairly detailed studies of the planning and conduct of programs for the recruitment and placement of nonfarm youth in farm work--as developed on a State-wide basis and in a number of local communities--in two States, California and New York, where organized programs were extensively developed because of acute labor shortage. It has also made a less detailed survey in Washington, another State in which acute labor shortage has led to extensive employment of children and youth as emergency workers. Surveys were made, too, in certain communities in Pennsylvania, Maryland, and Virginia. In addition, Children's Bureau regional consultants and field staff in the course of their usual duties obtained some information in many other States through interviews with State officials on the employment of youth to meet farm-labor needs during the 1942 season. This staff has also visited and reported on a number of work-camp and other projects conducted by youth-serving agencies, private schools, and other nongovernmental organizations, such as the Volunteer Land Corps. Information obtained in the field on State-wide programs, on local community programs, and on special projects of various kinds was supplemented by the use of reports and other written materials. All these sources of information have been drawn on for background in the preparation of this report on experience in the four States of California, New York, New Jersey, and Washington.

In the detailed surveys made by the Children's Bureau, information was obtained from interviews with officials and individuals who carried major responsibilities in connection with the employment of children and young people on farms and, wherever possible, with farmers and with young workers. Interviews were held with the county agent, representatives of the United States Department of Agriculture County War Board, the United States Employment Service director or farm-placement representative, school officials, health officials, 4-H Club leaders, youth-serving organizations, child-welfare agencies, defense councils and other organized groups that had assumed responsibilities in connection with the programs. Interviews were held too, with a few farmers who had employed young people and with a few farm workers, who were seen in school, at the United States Employment Service assembly point, on farms where they worked, or in camps.

The information obtained in these interviews covered community plan and organization; methods of recruitment and placement; the effects on school programs and attendance, of the employment of school students; training and preparation for work; working conditions, including wages, hours, rest periods, sanitary facilities, transportation, and living conditions in camps or individual farm homes, when young workers are placed in work requiring them to live away from their own homes; health and safety measures in relation to living, working, and transportation conditions; and the extent of labor turn-over.

The surveys were made during the late summer and fall harvesting seasons, for the most part during September and October after school had reopened following the summer vacation.

PLANNING REQUIRED FOR MOBILIZATION OF YOUNG WORKERS

A recent press release on meeting 1943 food-production goals issued by the Department of Agriculture 2/ stated: "It will be essential . . . to draw heavily on sources of labor not normally employed in farm work, such as nonfarm women, school youth, and nonfarm people with some free time. Effective mobilization of such unused manpower in Secretary Wickard's opinion will require a high degree of planning and cooperation among farmers, farm workers, public agencies, and educational groups, since the operation involves economic, social, and psychological problems."

Experience with emergency programs to employ inexperienced nonfarm youth in agriculture during the 1942 summer and fall seasons gave strong testimony to the truth of these words on effective mobilization as applied to the manpower resources of youth. The diversity of the problems to be dealt with, the urgency of "a high degree of planning," and the necessity for close cooperation of all groups and agencies concerned, emerge as three basic truths learned from the experience of 1942.

Because careful planning with regard to all aspects of programs is essential to successful use of young people to meet emergency farm-labor needs, the Children's Bureau and the Office of Education gave detailed consideration in their surveys to community planning and organization in relation to these programs. The June conference recommended that plans for the employment of young people in wartime agriculture should be the responsibility of State and local committees, widely representative of both public and private agencies. The conference specified that participating in the work of State and local committees should be representatives of public agencies concerned with labor, education, agriculture, health, and child welfare; representatives of farm, labor, teacher, community-planning, and youth-serving organizations; and representatives of parent-teacher and church groups.

During 1942 State committees and strong local community committees, such as were contemplated by the June conference, were the exception. California, New Jersey, and New York States were selected especially for study because they had State-wide plans, those of New Jersey and New York having been set up under special legislation. The plan and program in these States is analyzed in some detail, because the 1942 experience in these States should be helpful and suggestive to other States in setting up plans for 1943, when organization for the employment of nonfarm youth will undoubtedly be much more common than in 1942.

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2/ Press release, January 25, 1943.

PLANNING FOR USE OF STUDENT LABOR IN CALIFORNIA

State-Wide Planning

California's experience in community planning on both the State and local level for the use of students to meet farm-labor shortages is of particular interest, because of the tremendous size of its crop production; the gravity of its farm-labor shortage, accentuated by the evacuation of Japanese farm operators and workers; and the extent and scope of its experience with State-wide and local planning. California was faced with the need to use the labor of youth of school-age earlier than other States. It was also faced with a greater variety of problems. Consequently, there has been more experimentation with different types of programs and projects in California than in any other State.

Early development of the State plan

The usual farm-labor supply in California was seriously curtailed chiefly by (1) the draining of adult labor into the many key war industries located on the West Coast and into the construction of war installations of various kinds, (2) the enlistment and draft of workers into the armed forces, (3) the evacuation of the Japanese, and (4) the partial cessation of the customary movement of migratory workers because of lack of means of transportation and the availability of other types of more lucrative employment. Many crops grown in California, such as prunes, apricots, peaches, grapes, and various vegetables, require a large amount of quick hand labor during the harvesting season. Consequently, early in 1942 groups concerned with problems of farm-labor supply were interested in the development of organized programs to recruit workers of school age to help in harvesting. A number of different types of agencies, working independently, organized various kinds of projects to recruit school students for agricultural work.

Early in the year the United States Department of Agriculture, acting through the farm-labor supply subcommittee of the State Agriculture Planning Commission, and the State War Board, in conjunction with the subcommittee on agriculture of the State Defense Council, initiated a movement to plan for the recruitment and placement of student labor in agriculture. The farm-labor supply subcommittee of the State Agricultural Planning Commission, made up of five farmer members and one Farm Security Administration representative, met in January 1942 to consider plans for the use of student labor in agriculture.

This subcommittee appointed a group, composed of representatives of the United States Employment Service, the Farm Security Administration, The Giannini Foundation, the Bureau of Agricultural Economics, and members of the University of California faculty who were agricultural specialists, to develop

standards for the employment of youth in harvesting. This group called into consultation representatives of the State Department of Public Instruction and of the Y.M.C.A., the United States Employment Service, and school officials, in addition to agricultural agencies, played the most active part throughout the development of the program in California. Local school officials and representatives of the State Chamber of Commerce, the Children's Bureau of the United States Department of Labor, and other organizations were included in meetings to consider standards and procedures.

The plans of the State organization called for the establishment of county organizations of the same pattern as the State committee to take responsibility for planning programs in local communities. These committees were to be made up of representatives of the local farm-labor committees, the United States Department of Agriculture County War Board, and the County Defense Council and were to act under the over-all direction of the State War Board.

State plan for registration of students for vacation work.

The United States Employment Service and the State Department of Education working with the United States Department of Agriculture State War Board developed a plan for a State-wide registration of high-school and junior-college students for summer work on farms. This plan and the standards developed by the subcommittee were included in bulletins issued by the State Department of Education and the United States Employment Service. The State Department of Education issued its first bulletin to superintendents in charge of high schools on March 11, 1942, stating that the State Department of Education had been working with various committees concerned with the farm-labor shortage, and that it was anticipated that secondary-school students would be needed both to harvest the crops and to work in canning and processing industries. A joint subcommittee on farm labor had outlined a plan of action including the registration of students in high schools and junior colleges during March. At this time plans for the registration were concerned particularly with students over 16 years of age. 3/ The bulletin described the registration form that was being drawn up by the United States Employment Service for use for registration of students in the schools. One copy of each registration was to be referred to the local office of the United States Employment Service. The bulletin stated that the Technical Committee of the State Labor Committee, representatives of the public schools, the United States Employment Service, and the State Department of Education were "in emphatic agreement that every standard pertaining to the conditions under which minors work and every standard that protects their health, welfare, and education shall be maintained." It also stated, "It should be especially emphasized that this reserve force of student labor should be called upon only after all sources of adult labor have been fully and completely utilized.

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3/ In most communities students of 14 years of age and over were registered in May 1942.

This is particularly true during the time the schools are in session. Finally, it should again be pointed out that aggressive effort should be put forth to maintain every standard that protects the health, welfare, and education of minors."

On March 26, 1942, the State Department of Education issued a second bulletin to superintendents concerning the registration of boys and girls 16 years of age and over for work either in harvesting or in canning and processing industries. A special card had been printed by the United States Employment Service for registration of students of this age group. This bulletin also described the plan of the Y.M.C.A. to establish a number of emergency harvest camps in school buildings in localities where there was need of labor to be brought in from outside the area.

A third bulletin, based on agreements reached and recommendations made by the group appointed by the subcommittee on farm-labor supply of the Agricultural Planning Commission, 4/ was issued by the State Department of Education on May 25, 1942, and distributed to school officials and other county groups concerned with the program for the use of young workers in wartime agriculture. This bulletin outlined State plans for the employment of students during the summer vacation and included the procedures and standards that had been approved by the State Farm-Labor Subcommittee and its appointed specialists from school, health, and welfare organizations. It included: (1) Procedures to be followed in the registration of secondary-school pupils in the local schools on forms furnished by the United States Employment Service; (2) a summary of Federal and State laws, including school laws, governing the employment of children in agriculture in California; 5/ (3) a description of the kinds of work permits for use in agricultural work and methods for the issuance of these permits; (4) a recommendation to local boards of education to adjust school terms to harvest needs and suggestions as to methods of doing this, such as shortening Christmas vacations, and using half-day sessions; (5) procedures for establishing camps and standards for camp management, including references to State laws governing living and sanitary conditions, administered by the Division of Immigration and Housing, and a recommendation to enlist the State Department of Public Health and the State Department of Social Welfare in establishing standards and developing medical programs; (6) recommendations concerning the transportation and supervision of workers, and insurance for camps; (7) a recommendation concerning the integration of school and work programs.

Procedures and standards for work camps.

According to procedures for establishing work camps outlined in the bulletin issued by the State Department of Education on May 25, 1942, the local farm-labor subcommittee was to be depended upon to determine whether a camp was needed or not in the local community to house students from outside the

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4/ See page 7.

5/ Minimum age of 12 years under State law for employment in agriculture, except for work in sugar beets, where the minimum age is 14 years under Federal law.

district and to select an organization or individual to establish and operate camps. The United States Employment Service in cooperation with school officials was to assist in the transfer of students from one area to another. The bulletin included a statement on standards for camps, calling attention to the provisions of the labor code and to the fact that information could be obtained from the Division of Immigration and Housing of the State Department of Industrial Relations concerning location of camps, sleeping quarters, toilets, bunks and beds, cooking and dining facilities, and cleanliness. It recommended that young workers going away from home have a medical inspection or a physician's certificate and immunization against typhoid fever and smallpox.

Camps were to provide medical and nursing service and hospitalization when needed. Camp directors and personnel were asked to be thoroughly informed of conditions under which the campers worked. They were to be able to supervise camp activities and organize a program of recreation. Camps were advised to carry public-liability insurance and workmen's compensation for employees. It was recommended that camps obtain advice from the State Department of Public Health and the State Department of Social Welfare on the health aspects of camp organization and operation, including nutrition.

In actual practice the integration of the work-group program with farm-labor needs was not entirely satisfactory nor were all the camps run with proper consideration for the working and living conditions of the young workers. In one area a camp was established at the request of a group of farmers, but local workers had to be released from the fields and canneries in order to supply the campers with work.

In the same vicinity many boys in a camp operated by a youth-serving agency were unable to earn enough money to pay the $1.25 charges for board, lodging, and other costs entering into the operation of the camp. Reasons given for leaving this camp included "pay bad, food bad", and "could not make enough money to pay for board and room."

Role of the United States Employment Service.

On March 19, 1942, the United States Employment Service, which expected to register 100,000 students for summer work, issued a bulletin to its local offices outlining the program for the registration of students agreed upon with the State Department of Education. This bulletin stated that "student workers are to be used only to fill a deficiency labor need. This is particularly true during the time the schools are in session. Every standard pertaining to the conditions under which minors work and every standard that protects their health, welfare, and education shall be maintained." The United States Employment Service offices were asked to supply the local schools with the necessary registration cards.

In July the United States Employment Service sent two additional bulletins to its local offices. The first one, describing the Y.M.C.A.'s program for 12 harvest camps, asked the local managers to keep in close contact with the

harvest camps within their respective areas and to extend full cooperation to the camp management and to the workers. It was suggested that the United States Employment Service office maintain daily contacts with the camps and encourage the use to the fullest extent of the labor supply recruited by the Y.M.C.A.

The second bulletin called for cooperation with the American youth hostels, and asked office managers to contact local American youth hostels in order to assist in placing the young hostel members in agricultural employment. The locations of eight youth hostels were listed.

School adjustments.

During the late summer of 1942 the State Department of Education worked on plans for the reorganization of the school year, and on September 8 a bulletin that set forth the procedure for shortening the school year was issued to city, county, and district officials. The plan allowed the schools to operate for less than the 170-day school year provided for by State law, upon application of the local boards, after consultation with the United States Department of Agriculture War Board and the United States Employment Service, to the State Department of Education. This arrangement permits State aid to be paid to local school districts regardless of the length of the school year.

War Manpower Commission organization established September 1942.

State organization.--In September 1942 the regional office of the War Manpower Commission set up a new program to recruit resident labor in California and to assist in meeting the farm-labor shortage. This program called for very specific organization on a State, area, and county basis. The State committee was to be composed of three representatives of the War Manpower Commission, two representatives of the State Chamber of Commerce, three growers' and processors' representatives, two representatives of the Farm Bureau Federation, two labor representatives, a representative of The Grange, two representatives from the United States Employment Service, one from the United States Department of Agriculture War Board, one from the State government, one from the Farm Security Administration, and two from "agricultural manpower volunteer groups," including the Y.M.C.A. and the American Women's Volunteer Services. The State departments of education, labor, immigration and housing, health, and social welfare were not included, although they are concerned with various aspects of the employment of young workers and with the enforcement of State legislation applicable to certain phases of the program.

Area organization.--Area committees were provided for and territory specifically allocated to each area committee. The area agricultural manpower

committees were to be composed of the district manager of the State Chamber of Commerce, who would serve as chairman, and representatives of the United States Department of Agriculture War Board, United States Employment Service Area Farm Placement, Farm Bureau Federation, Grange, labor, the State government, and volunteer groups. These area groups were responsible for:

"1. Publicity and full recruitment drive to obtain local workers.

"2. Coordination and direction of county and subcommittees.

"3. Coordination of activities of all governmental, private, and interested agencies and individuals.

"4. Obtaining and summarizing weekly reports from subcommittees and agencies reflecting labor requirements and labor supplies.

"5. Channeling through county and subcommittees plans and operations for employer orders, recruitment of workers, placement, transportation, and housing." 6/

Local organization.--Provision was made for organization of county or community committees as they were needed. Wherever local committees were already in existence under the earlier plans and were operating effectively, they were to be continued and their activities coordinated insofar as possible with the manpower program. When new committees were established the membership was to be as follows:

"1. Local United States Employment Service manager.

"2. Local United States Department of Agriculture War Board member.

"3. Local Chamber of Commerce representative.

"4. Local Grange member.

"5. Local Farm Bureau Federation member.

"6. Volunteer groups and other local representatives as required.

"7. Office of Civilian Defense.

"8. County superintendent of schools.

"9. Chairman, Farm-Labor Subcommittee.

6/ Farm Labor Program, War Manpower Commission, Region XII, p. 3.

The chairman was to be selected by the membership with the approval of the area committee. The responsibilities for the program assumed by local agricultural manpower committees and assigned to participating agencies were as follows:

"1. Local United States Employment Service--Referral and placement.

"2. Local United States Department of Agriculture War Board--housing and transportation.

"3. Local Chamber of Commerce--publicity and recruitment campaign.

"4. Local Grange and Farm Bureau Federation--grower cooperation.

"5. Submission of necessary reports of area committees.

"6. Coordination and carrying out of plan of operation."

It is to be noted that this plan provided for broad and inclusive representation of all groups concerned with these programs in the local community. Representation from health and welfare organizations was not specified but could be included under the heading of volunteer groups and other representatives as required.

This new manpower organization had only recently been announced at the time that the Children's Bureau survey was made in California, and observation of the local programs in practice was made in September before the new manpower program was under way. Therefore, no estimate can be made of the effectiveness of the functioning of this organization.

Evaluation of California State program during summer and fall, 1942.

Bulletins of the different committees and operating agencies concerned indicate excellent working relationships among the United States Employment Service, the State Department of Education, the schools, and the private youth-serving agencies. The way in which the relationship had been developed between the Y.M.C.A. and the governmental agencies concerned is particularly notable, because private youth-serving agencies in many States have often not had an official relationship to the planning of the governmental agencies.

The California State organization, which was developed early in 1942, made an excellent beginning because of its concern for good standards in the employment of young workers and because of the comprehensive scope

of its considerations. The committee brought together all the various agencies active in recruiting young workers, coordinated their planning, and obtained agreement as to standards to be used by these agencies in their own operations. The organization, however, had no funds and no provision for executive service, so that it was not able to carry out effectively the standards that had been set. It will be seen in the discussion of local organization that the success in local communities of the employment of youth as emergency farm workers and the extent to which the standards set by the State organization were actually carried out depended upon the type of organization that leaders in the local community were able to set up and to a very large extent upon whether provision could be made for special staff.

Planning and Conduct of Programs in Local Communities

Four sections where young people were used extensively in harvesting operations, one in the San Joaquin Valley, another in the Santa Clara Valley, and two in southern California, were visited by representatives of the Children's Bureau during September and October of 1942.

A great variation was found among the counties and local communities as to the type of programs set up, the care with which the local program for the employment of young workers in agriculture was developed, and the success of the program in terms of satisfactorily meeting the farmers' labor needs and of providing protection for the young workers. Although procedures had been developed by the State plan for recruiting and placing children and young people of school age in agricultural work, no means of implementing the standards that had been agreed upon by the State organization was set up. In general, where no organization with special staff was provided to assume responsibility for the total program, recommended standards were not put into effect. An analysis of the different types of community programs that were developed, and a brief description of the plan of the work camps, are given below.

Organization in Stockton, California.

Stockton, California, demonstrated how an excellent program can be developed by a centralized administration. In San Joaquin County a farm-labor-supply subcommittee, patterned after the State organization and made up of representatives of the County Farm-Labor Committee of the State Agricultural Planning Commission, the United States Department of Agriculture County War Board, and the County Defense Council, was set up early in the spring of 1942 to develop a program for the employment of youth in agriculture. In May students 14 years of age and over were registered in the Stockton schools for harvest work on farms prepared by the State United States Employment Service of California.

In June, other agencies, including local school officials, the United States Employment Service, and the County Agricultural Commission, the State Department of Industrial Relations inspector for the area, the county farm advisor, and the Y.M.C.A. were brought into participation in planning the program. At meetings of this group standards were developed for the protection of the young workers and it was decided that a paid coordinator should be responsible for the administration of the program and for the carrying out of the standards established by the planning committee. The coordinator was to be appointed by and paid by the city school district of Stockton. The man appointed as coordinator was a vice principal of a school, and the office of the coordinator was established in a school close to the United States Employment Service office.

Standards.--Copies of standards that were to be observed before children could be placed were mimeographed and distributed to all the interested community organizations and to growers. Requirements were set up which called for the following:

1. An interview with each grower ordering student labor and the inspection of his ranch.

2. Growers employing children must carry workmen's compensation and public-liability insurance covering transportation.

3. A supervisor, satisfactory to the inspector, for each group of 10 or more children.

4. Segregation of student crews from other workers.

5. An 8-hour day for crews including any members under 16 years of age.

6. New crews to be trained at the ranch by a member of the County Agricultural Department staff.

7. Crews must leave the assembly point and be returned by the grower at specified times.

8. Transportation by school bus, or safe trucks with solid sides, closed backs, and adequate seating arrangements, driven by a licensed chauffeur. 7/

9. A minimum age of 15, and a minimum weight of 125 pounds, for difficult work such as fruit picking.

10. Ladders must be moved by adults.

11. Drinking water must be obtained from a source used by the ranch family for a prior period of 30 days without illness, and individual cups.

12. Later, when girls were placed through the program, standards were revised to require a rest period of 15 minutes in the morning and afternoon and a 1-hour lunch period.

A minimum age of 14 for registration was first agreed upon, but when it was found that there were not sufficient older children available for the work, children from 12 years of age were registered. 8/

7/ Licensed in accordance with State laws.

8/ The legal standard established by the State of California for employment in agriculture includes a minimum age of 12 years.

At first, until plans for girls could be made, only boys were recruited and placed. When it was decided to use girls also, standards were revised to require a rest period of 15 minutes in the morning and in the afternoon and a 1-hour lunch period.

Procedures.--The growers placed their orders for young workers with the United States Employment Service, which transmitted them to the office of the coordinator. Either the coordinator or the county agricultural commissioner was responsible for inspection of the ranches. It was not always possible to visit the ranch before placement was made, but every ranch on which school children were placed was inspected within a week of the time the order was filled. The orders were entered on a special form developed by the coordinator, which included information on insurance coverage and carrier, method of transporation, wage rates, hours, type of work, and special requirements for the labor needed by the grower. The coordinator always verified insurance coverage by telephoning the company listed as the carrier before he assigned young workers to fill the order.

Placements were made by the coordinator from the registration cards, which had been filled out in the school. Information on placements, earnings, accidents, and other information concerning the young person's past work experience was entered on the registration card. Work permits were carefully issued with a notation as to the type of work permissible for the age of the child.

In the Stockton program all placements were made on a day-haul basis. The young workers assembled each morning at the office of the coordinator and were assigned to crews. Although the actual working time was limited to 8 hours, the hours which the young workers were away from home were long and averaged 12 or more hours a day because of the time required for transportation, rest periods, and lunch periods in addition to the time spent in actual work in the fields. The worker usually left the assembly point at 6:30 in the morning and returned at 6:30 or 7 o'clock at night.

Supervision at work.--Each crew of workers of 10 or more had a supervisor, who was in charge of the group from the time the workers left in the morning until they returned to the assembly point at the end of the day. The supervisors, who were paid by the growers from $5 to $7 a day, were recruited chiefly from housewives and teachers who were on vacation. The group supervisors were not required to do harvest work themselves, but they instructed the workers in work methods, kept production and wage records, obtained medical attention for injured workers, and took care of any problems that arose concerning payment of wages, hours, and other working conditions. The supervisors reported regularly to the coordinator in charge of the program. Their reports were used by the coordinator to check on the enforcement of standards agreed upon. Growers who repeatedly failed to comply with the standards were refused further school pupils as workers.

Stockton organization effective in carrying out standards.--The Stockton program with its full-time paid coordinator and paid supervisors

for each group of children may be considered a model program. The provision of full-time staff made it possible to see that standards for placement and employment conditions agreed upon in advance were effectively carried out. The evidence would seem to indicate that it is possible to obtain full application of good standards and safeguards for young workers only when such special organization and staff is provided. As one man told the Children's Bureau representative in California, "Everywhere there was supervision it worked, and everywhere there wasn't supervision it flopped."

Communities without organization and planning to safeguard young workers.

When no special organization was set up and no staff provided, selection of workers tended to be haphazard, legal provisions of the child-labor law were not complied with, and recommended standards for employment conditions and safeguards for young workers were ignored. In most communities in which there was no community-wide planning for the program, the children and young people were sent out on day hauls without supervision except for that given by the grower or his foreman. There was evidence that these children, some of whom were very young, worked extremely long hours under undesirable conditions without being able to earn a fair wage; they were frequently dissatisfied with the work and often changed jobs, or quit entirely.

One of the communities visited may be used in contrast to the excellent program in Stockton to illustrate the situation that is likely to prevail when no method of carrying out standards has been set up. In the community of x----- there was no real plan for the employment of young workers in agriculture. There was no coordination of the activities of different groups and agencies that worked independently of one another in recruiting children and young people.

Recruitment of school students.--A meeting of agricultural groups and the United States Employment Service had been held in the latter part of 1941 to consider the problems involved in meeting the anticipated farm-labor shortage. Early in 1942 in a meeting of city and county superintendents with the United States Department of Agriculture, it was agreed that school children would be used to help make up the deficiency in the labor force. Soon afterward meetings were held with high-school students to interest them in volunteering their services for farm work.

In May, high-school students in the tenth, eleventh, and twelfth grades were registered on the regular "V" cards supplied by the United States Employment Service for the registration of school children. In June pupils from the seventh, eighth, and ninth grades were registered on the United States Employment Service cards ordinarily used to register adults. These students ranged in age from 10 to 16 years, although most of them were between 12 and 15 years old. During the summer, after school was closed, additional children were recruited through newspaper publicity, but no attempt was made to register them or to ascertain their ages. All children who offered their services were used and no records were kept of the placements.

In June, the county agricultural commissioner distributed a mimeographed letter to farmers recommending that they obtain labor through the United States Employment Service and listing expected sources of labor in the following order: (a) migrant labor, (b) student labor, (c) adult volunteer labor. The letter recommended that training and supervision should be provided for inexperienced labor and that growers' trucks and school buses should be used for transportation.

Lack of standards in placement.--Apparently no consideration was given to policies to govern recruitment or to standards for employment conditions. The placement agency assumed little responsibility for seeing that legal provisions or standards recommended by State agencies were observed.

Children who wanted to work came to the office of the United States Employment Service early in the morning between 6 and 7:30 a.m. and met the growers there. Sometimes as many as 400 to 500 children waited on the sidewalk. The children made their own arrangements with the growers, including the wages for which they would work. Some very young children, probably not more than 8 years of age, unchaperoned by any adult, were seen among the workers.

During the first week that school children were sent out on day hauls in this community, no records of any kind were kept of the names of either the workers or of the growers. During the first week parents frantically telephoned the United States Employment Service office to find out where their children were when they had not returned home at 7 or 8 o'clock at night. Consequently, the United States Employment Service office initiated the practice of listing the name of each worker and the name of the grower with whom he went to work for the day.

Except for informal supervision given by one or two individuals, including one interested housewife, who took it upon herself to take out a group of youngsters each day, no training or supervision was provided for these workers. At the United States Employment Service office it was said, "The kids are just turned loose." One grower complained that the children wrecked his bean vines and tomato plants because they did not know how to pick.

Not only were standards for the selection of young workers not set, they were not even established for transportation or for any working conditions. In some instances, school buses were used to transport the children; in other instances, the growers brought their trucks, which sometimes were of the flat platform type without sides or tail gate. Very young children were seen clinging to posts on the sides of an open truck. The placement office made no check as to coverage by workmen's compensation or public-liability insurance.

The customary workday was a 9-hour day, although no standards for hours had been set by this committee. In addition, considerable time was spent in transportation. No provision was made for lunch hours or rest periods.

One adult, a volunteer harvest worker, who found the work in the prune harvest difficult and the baskets very heavy, said that she had observed three children of 12, 13, and 14 years of age who worked nearby in the same orchard; the children were exhaused by noon, after working from 6:30 a.m. and fell

asleep right after lunch. A girl 15 years of age was seen lifting and carrying 50-pound boxes of grapes from vine to vine and to the road where the grapes were loaded onto trucks. These youngsters were working with no supervision whatever, as the foreman in charge of the crew was repairing a tractor at some distance from the field; they were working as part of a mixed crew of volunteer workers and no special instruction or supervision was provided for them. In general, the children were probably paid the prevailing piece rates, but there was no assurance of this as long as large numbers of school children were available to work. The United States Employment Service office assumed some responsibility for helping youngsters to collect wages in cases of nonpayment.

In summary, it may be said that the program in x----- community was concerned only with the recruitment of school children to meet immediate harvest needs; little or no consideration was given to the protection of the health and welfare of the young workers through the setting of standards for minimum age, maximum hours, wages, safety measures, insurance, and other working conditions. No responsibility was fixed for seeing that standards of State labor and welfare legislation were followed.

Lack of organization for the use of youth as farm workers.-- In another county the farm-labor program differed from others observed in the State in that the county agricultural commissioner was appointed as coordinator of the over-all program by the county Board of Supervisors at the request of the committee for planning the total farm-labor program, but no organization or administrator was responsible for planning the program to use youth as farm workers. Also, the shortage of farm labor there was not so severe as in many other sections of California, and packing houses were, in general, dealt with as employers of farm labor instead of individual growers.

Here the labor problem was in general handled to the satisfaction of the growers but little thought was given in the plans for the use of young workers and no standards or controls were developed specifically for their employment. No training was given to the young workers either for efficient work methods or for safety although instruction in packing fruit was given for older workers. No special plans were made for the working conditions, hours and wages, supervision, or transportation of workers.

The need for supervision was recognized at the end of the summer, and the lack of planning for it was offered as a criticism of the program. In a nearby area several stories were told about the behavior of some boys who were working entirely without supervision in tomato and orange picking. About 40 boys who were picking tomatoes got into a fight after one boy threw a tomato at another. When they exhausted the supply of tomatoes they had picked, they moved over to tomatoes stacked at the side of the road and continued using these as ammunition. The grower was unable to stop them and called the police. All the boys were taken to the nearest jail and some were detained there for 2 or 3 days before their parents could arrange bail. Another story involves a similar episode in connection with oranges. In this case the boys pelted the oncoming police car with oranges and broke the windshield.

Because plans to adapt the length of the workday to the strength of the young workers were not made, the students got very tired. In 1 week the labor coordinator reported that different boys working for four growers were leaving the orchards because of fatigue.

The experience of this community indicates that even though an adequate program was developed for dealing with over-all farm-labor supply, it failed to make effective use of young workers or to protect their health and welfare because a special organization was not established to deal with this phase of the program.

Need for Executive Services for State and Local Organizations

The experience of these communities would seem to indicate that the recommendation of standards by a State organization and by State agencies participating in the program is likely to be ineffectual unless some provision is made for organization and the fixing of responsibility for the adoption and carrying out of the recommended standards in the local community. In spite of careful consideration of standards by the State organization in California, the interests of the young workers were carefully protected in one community and not in another. It is particularly interesting that a program that took into consideration the welfare of the young workers as well as the need for labor was developed in an area where the heaviest agricultural production in California takes place. Apparently where the work of young people is needed urgently, it is recognized that plans must be made to provide good working conditions for them. It was in these areas that growers were more satisfied with young people as workers. In areas where the labor need was less acute, haphazard planning resulted in unsatisfactory conditions of employment and lack of coordination in the use of all available labor.

The great differances in practices among communities indicate the urgent need for the development by the State organization of a means of carrying out its decisions as to procedures and standards in the local communities and of giving aid to local communities in the setting up and conduct of their programs in accordance with the State standards. In local communities also the most satisfactory programs were developed when there was a centralized authority for carrying out the standards set up by the local advisory committees on farm-labor resources and the use of youth as farm workers, for coordinating the recommendations of these committees and the activities of all interested agencies, and for integrating the use of youth with the total farm-labor program. California agencies are evidently well aware of the need for executive services because, at the end of the 1942 fall season, it was decided to ask for funds to appoint coordinators for northern and southern California. This request was incorporated in the resolution of the State Department of Education, issued in September 1942, which set up procedures for abrogating the requirement of a full 170-day school year.

STATE PROGRAMS BASED ON LEGISLATION

In contrast with California where large numbers of children and youth of school age were used as emergency farm workers in 1942 without any special legislation, the State-wide planning in both New York and New Jersey has been in relation to carrying out provisions of special legislation. This legislation, enacted in both States in 1942, provides for the release of children 14 years of age and over from school to work in agriculture for not more than a specified number of days. Although the New York and New Jersey laws are similar in purpose, they are very different in the methods used to set up and carry out the program, especially from the point of view of setting and maintaining certain standards as to conditions of release from school and conditions of work. The experience of these two States in carrying on State-wide programs in accordance with legal provisions should be extremely valuable to other States faced with a farm-labor shortage.

State Program in New York

Release from school under Young-Milmoe Act.

The plan for release of school children was developed in New York in the early days of the emergency labor shortage before Pearl Harbor. Following the adoption by the New York State Defense Council of a resolution framed on the basis of reports of farm-labor shortage and recommendations to meet it, made by the State Agricultural Defense Committee, the Lieutenant Governor on August 26, 1941, announced a plan for release from school of children 14 years of age and over for as much as 10 days for emergency harvest work during the fall season without loss of State educational aid to the local school districts. Through this provision 19,991 young people were released for a total of 125,941 school days in the fall of 1941, according to reports made by the State Department of Education.

In the following session of the legislature the plan was incorporated into a bill that was enacted as the Young-Milmoe Act on March 30, 1942.

It has been estimated that between 35,000 and 40,000 students were released from school for work on farms under the terms of this act during the fall of 1942. 9/ The act provided that until July 1, 1943, the Commissioner of Education may release children 14 years of age and over from school for as much as 30 days a year for planting and harvesting work. A certificate is required from the County Agricultural Defense Committee that sufficient adult labor is not available.

Conditions of release.---The release from school was to be covered by rules and regulations prescribed by the Board of Regents. These were to include that pupils be in suitable physical condition and that local school authorities be responsible for safeguarding the children's educational interests.

9/ A Farm-Labor Program for New York, 1943. Prepared by the New York State Agricultural Defense Committee, December 1942, p. 8.

The regulations adopted by the Board of Regents and incorporated in a bulletin April 22, 1942, from the State Department of Education to school officials provided that the following conditions must be met before school children could be released:

> "1. Filing with the Commissioner of Education of a certificate of emergency issued by the County Agricultural Defense Committee stating that adult labor is not available, and specifying the crops involved and the number of days for which pupils would be needed. (This committee was composed entirely of farmer representatives.)
>
> "2. Certification by the school medical examiner that the pupils to be released are physically fit for the work to be performed, if they are to work away from the home farm.
>
> "3. Suitable and satisfactory provision to safeguard the educational interests of the pupils.
>
> "4. Release only 'when hours of work, conditions of work, wages and transportation facilities are known by school authorities to be satisfactory and not hazardous to the pupil's health or safety.'"

The regulations further provided that release should be limited to 15 days in any 3-month period. These regulations squarely placed on the local school officials responsibility for assuring that working conditions and transportation were satisfactory and for "safeguarding the educational interest" of the child. No plan was made as to how these responsibilities were to be met.

Farm Cadet Victory Service for work during vacation.

In addition to the plan for the release of students during the school term a State-wide program was put into effect in 1942 for the registration and placement of students 14 years of age and over for agricultural work during the summer vacation. This program, called the Farm Cadet Victory Service, was developed jointly by the Extension Service, State College of Agriculture, the State Department of Education, and the United States Employment Service. Students were to be registered by the schools in the spring, on forms prepared by the New York State Agricultural Defense Committee and for referral of these enrollment cards to the United States Employment Service for use in placement. The students not only gave information on the card as to age, physical condition, and farm experience, but also were asked to indicate whether they would like (1) to work and live on a farm, (2) to help harvest fruit and vegetables but live at home, or (3) to work in a farm-harvest work camp. The card called for signed approval of parent or guardian. The Bureau of Agricultural Education reported that 69,000 students registered as Farm Cadets and about 30,000 were placed during the summer of 1942.

Assignment of operating responsibilities.

The three operating agencies each sent bulletins to their local operating units, outlining the plan for the Farm Cadet Victory Service. The responsibilities of each agency were carefully specified. The Extension Service through the county agricultural agents and other agricultural groups were to promote job solicitation and serve in an advisory capacity in regard to placement functions. The education authorities were concerned with enrollment of students and with problems involved in mobilizing student labor, and the United States Employment Service was responsible for selection and referral. The County Agricultural Defense Committee was to serve as the coordinating agency.

Working conditions.--The County Agricultural Defense Committee was also to provide information to the United States Employment Service as to any farms that would be unsuitable for student placements because of poor working conditions. Instructions from the United States Employment Service for New York State to local offices requested the farm-placement worker to consult a representative of the County Agricultural Defense Committee concerning any applications of farmers for workers "to ascertain whether the student may reasonably expect fair treatment and suitable working conditions." An unfavorable report was "to terminate referral action."

Students under 16 years of age were to secure work permits for which is required under the State child-labor law:

1. Written consent of parents.
2. Proof of age.
3. Permission of school authorities.
4. Physical examination.

Placement workers were asked to furnish information on type of work, wages, housing, and hours to students referred to them who were to work and live on a farm all summer. It was suggested that whenever possible the parents of the students should be put in touch with the farmer employer, so that the parents could approve the arrangements. The instructions made it an obligation of the United States Employment Service to see that adequate measures to protect safety in the transportation of workers were taken and to see that the provisions of the Liability-Insurance Law and the New York State Vehicle and Traffic Law, covering the transportation of workers, were observed. Publicity stressed the necessity of measures to protect the health and welfare of students employed in the program.

Effectiveness of planning on State level.

The same methods of work and standards were used both in the program for the release of children from school for farm work under the Young-Milmoe Act and in the Farm Cadet Victory Service, under which children engaged in farm work during vacation. Therefore, for all practical purposes these two plans constituted a State-wide program for the employment of young people of school age as emergency workers on farms with three major operating agencies carrying responsibility: the Department of Agriculture Extension Service, working in conjunction with the State Agricultural Defense Committee and other agricultural groups; the schools; and the United States Employment Service. The two plans, however, were conceived of as separate measures to use young workers to meet the farm-labor shortage, and a comprehensive, integrated State program was not actually set forth in 1942.

The working relationship among the three operating agencies appears to have been excellent on both the State and local levels, and each agency performed its own assigned functions as well as could be expected. The administrator of the Sanitary Code in the State Department of Health arranged with the United States Employment Service for farmers and others who intended to establish farm-labor camps to apply for a permit from the Department of Health. Permits were granted in accordance with the law after water, milk supply, and sewage disposal had been approved. Not more than a score of permits were applied for, although there were many times that number of camps. Other State departments and agencies concerned with the employment, health, and welfare of youth, such as the Departments of Labor and Social Welfare, did not participate in the program, nor were private agencies, such as the youth-serving agencies with experience in operating camps, asked to help. The program was inevitably focused on recruitment and placement, and inadequate attention was given to other phases of the program that are, in the long run, equally important to success in the use of youth as emergency workers, such as preparation, supervision, suitable working and living conditions, and protection of health and safety. The operating agencies were well aware of the need for consideration of most of these aspects of the employment of youth and stressed them in instructions to the placement agency. Nevertheless, the resources and services of agencies directly concerned with enforcement of labor standards and with health and welfare provisions were not utilized to develop effective and practical ways of safeguarding the well-being of young workers. There were some aspects of programs, such as setting up and operating work camps and providing supervision, that the local participating agencies were obliged to face without aid or leadership from the State organization.

That there were gaps in the planning of the State-wide programs during 1942 is well recognized by all the agencies involved. A report prepared by the New York State Agricultural Defense Committee in December 1942 for submission to the New York State War Council recommended that an adequate appropriation be requested from the State legislature for "the training, transportation, supervision, and protection of school help and other

youth groups mainly from cities, in order to guard their rights and to assure at least a minimum standard of care while they are engaged in a patriotic contribution toward production of food for the war effort." 10/ This recommended program should go far towards plugging the gaps found in the early months of the emergency programs. It should be a great aid in giving the farmers more efficient service and in safeguarding the welfare of the young workers. If put into effect, the program will provide the funds and staff necessary to deal with the special problems involved in the use of immature and inexperienced workers.

Planning and operation of programs in local communities in New York State.

Six New York counties, two in the Hudson River Valley and four in Western New York, where young people of school age were used extensively in agriculture during the summer and fall seasons of 1942, were visited by representatives of the Children's Bureau during the fall harvesting season.

The pattern set at the State level with some exceptions was followed in most of these communities, especially the counties where the recruitment center was a large city.

Pattern of operations in city areas.--In Buffalo and in Rochester, for example, the County Agricultural Defense Committee and the county agent, the schools, and the United States Employment Service were working closely together to recruit and place school children. The United States Employment Service was assisting in the maintenance of good working conditions through refusal to place workers unless predetermined standards as to wages, hours, transportation, and other conditions, such as provision of drinking water at work, were complied with.

In communities of this kind, a small number of boys were placed to live on individual farms where they were employed to do general farm work, and large numbers of children were sent out on a day-haul basis as day harvest workers, while they continued to live at home.

Pattern in a rural county in western New York.--In a New York county visited in which there is no large city, the program was less well organized. The program was limited to recruitment and placement of children by the schools. The farmers called the schools directly for workers and the schools filled the orders. Because the United States Employment Service did not participate in the program, an opportunity was given the labor contractors to use the schools to recruit their crews. During the fall season the contractors waited outside the school, recruited the children, transported them to the farms where they were to work, and collected a commission from the children's earnings. Other children obtained their jobs directly from farmers. Regardless of whether the schools or the labor contractors placed the children, no standards at all were observed for recruitment, placement, working conditions, health, or safety.

Programs in the Hudson River Valley.--In the two counties visited in the Hudson River Valley the programs were quite different in character from

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10/ A Farm-Labor Program for New York, 1943. Prepared by New York State Agricultural Defense Committee, December 1942, p. 19.

those in western New York. In this fruit area the organized program involved chiefly a program of work camps to house young people recruited in New York City. In addition, during the fall season after school opened, the local schools placed children to work by the day on nearby farms.

The work camps were planned and set up by the County Agricultural Defense Committee and the county agent. The boys were recruited in New York City by the United States Employment Service and the School Department of New York City, and in other cities in several different States. There was no community organization or coordinated planning by the agencies for the community in setting up this program. Consequently, the camps were often makeshift and unsatisfactory in many ways. Supervision was inadequate and no provision was made for recreation and social activities or community contacts during off-duty time. In some instances, the farmers, the workers, and the citizens of the community were all dissatisfied with the results.

For example, in one camp where no recreation and no guidance over the comings and goings of the boys were provided, the boys during the evening and night frequently went into the neighboring town and made such nuisances of themselves that the community did not welcome their presence. In another community 28 boys, supervised by one teacher, were quartered over a saloon where boisterous parties that disturbed the boys' sleep were held every night until early morning. No leisure-time activities were planned for the boys themselves. On one farm 30 boys were housed in the tenant house and garage. No recreation was provided; the only amusement the boys were allowed around their living quarters was to play ball behind the barn. As a result the boys went into the nearby town and caused disturbances. Two of the boys were arrested for stealing a metal urn from an undertaking establishment and selling it for money to buy cigarettes and other things they wanted. In another camp where there was no planning for leisure activities, a large group of older boys staged a riot of major proportions during the evening meal and destroyed desks, screens, and other property in the resulting fight. Police had to be called to stop the disturbance. The next day the police and a group of armed farmers loaded the ringleaders into buses and sent them back to the city.

Comprehensive local community planning lacking.--In the six counties visited in New York, coordinated community planning in relation to the employment of young workers on farms had been attempted only in the larger cities. In these cities an excellent working relationship had been developed among the three operating agencies, the county agent, the schools, and the United States Employment Service. In some cases other agencies, such as the district health officer, the Chamber of Commerce, welfare agencies, and others had been brought into consultation and had participated in at least one meeting at the beginning of the season to consider the program. No way of implementing recommendations made by these other agencies or for utilizing their resources and services was developed. As a result, the health and welfare aspects of these programs tended to be neglected.

Health agencies were not asked to assume any responsibility for the inspection of water supply and sanitary conditions on farms, nor were they

asked to arrange for physical examinations for young recruits. Although the State programs called for a physical examination in the case of the Farm Cadet Victory Service and certification of physical fitness by the school medical examiner for release from school, physical examinations were, in general, not given and often observed in the local programs there was no check at all on physical fitness. Community practice in localities where procedures were carefully worked out was for the officials to consult the school health record, based on a physical examination given some time in the past. The health aspects of the employment of youth in New York localities were given little consideration, and adequate measures to insure provision of an effective check on physical fitness were not developed.

Although there were agencies in the community with extensive experience in placing young people in farm homes, this experience was not utilized in the development of criteria for determining the adequacy of living conditions. Youth-serving and youth organizations with experience in dealing with groups of young people were found not to have been consulted.

With further experience there will undoubtedly be fuller use of all community resources to meet the needs of young workers. It was inevitable that emphasis should have been placed during the first season, when much of the planning was experimental, on recruitment and placement and on the development of good work methods by the major operating agencies.

Good procedures developed by Rochester for release of school students--The Rochester schools developed a program that is especially worth study from the point of view of procedures for release from school. Extremely careful procedures were worked out for the selection of students to be excused from school for farm work and for checking to see that they were either in school or at work. Each school designated one person to be responsible for the program in the school. This counselor having charge of the registration of all students and working in conjunction with the United States Employment Service, notified students of the days they were to work. The staff member delegated in each school was expected to be on duty at the school at 7 a.m. each day from Monday through Saturday to supervise the loading of the students on the farmers' trucks and buses. This, however, was not uniformly carried out.

Each student who applied to be excused from school to do farm work filled in a card showing exactly what his daily school program was and where he might be found each school period of the day. On the back of the card the student signed his name to six conditions, including the agreement to make up his school subjects when he returned to school, and that if it rained, or if the truck did not arrive, he would attend his regular classes. A second card was signed by the parent, or guardian, requesting the board of education to excuse the child from school attendance in order to do farm work. This card was also used by the school advisor to signify his approval. Each student who registered was supplied with a time card with a space for the signature of the employer, or supervisor, for each day the student worked. The student was obliged to obtain this signature as evidence that he had been employed for each day he was excused in order to obtain credit for attendance.

The schools and the United States Employment Service worked very closely together and continuously checked back and forth on the lists of students who were excused and those who actually worked, so that the schools were fully informed at all times as to whether the students were actually working on the days they were excused. It is to be noted that the students reported to the school, and sometimes to the United States Employment Service, in response to a specific request from the United States Employment Service for work on that day. In some other communities the students were given a blanket excuse for a number of days' work in advance, and no method was devised to check on whether the students were actually at work until the end of the season, when the reports of placements were sent in by the United States Employment Service.

The schools had made an effort to surround the excusing of the students from school with every precaution to reduce interruption of education to a minimum and to select only those students who could afford to take the time from school.

Program in New Jersey

The State commission.

The New Jersey act providing for the release of children from school to do farm work and for the adjustment of school days, terms or curricula also provided for administration by a State commission known as the New Jersey Student Service Commission and by county commissions. The State commission is broadly representative and is composed of 11 members, one appointed by each of the following officers:

Commissioner of Education
Commissioner of Labor
Director of Health
Secretary of Agriculture
President of the Farm Bureau
Master of the State Grange
Director of the United States Employment Service for New Jersey
President of the League of Women Voters
President of the New Jersey Consumers League
President of the State Congress of Parents and Teachers
Chairman of the State Defense Council

The State commission has had regular meetings every 2 weeks. It has employed a full-time executive secretary to take responsibility for the execution of plans and decisions made by the commission. New Jersey was the only State that provided full-time special executive service for its State organization in 1942. The act provides that the State commission shall coordinate its activities with the United States Employment Service and the State Defense Council.

County commissions.

Each county was to form a county commission composed of the county superintendent of schools, the county agricultural agent, the farm-placement agent of the United States Employment Service, and representatives of the Parent-Teacher Association and other civic organizations. By law the county commissions are required to receive written requests for farm labor of school students submitted through the Farm Placement Service. These requests are submitted on special forms giving crops, acreage, housing, transportation, wage rates, insurance, labor needs, and dates. The county commission then explores the available labor supply within the area, combines such requests that are not likely to be met by adult labor supplies, and transmits them to the State commission.

The requests made by the county commissions provide information on area needs, total labor requirements, number of students needed and the number enrolled for farm work in each school in the area, and on available transportation. This request is reviewed by the State commission, which may approve it and may agree to or limit the number of students to be recruited. The State commission may also give special instructions to the county commissions. When recruitments are insufficient in number to meet the needs, the commission can refer the request to other counties that may be able to provide students on a longer haul basis. The county commissions are responsible for determining the farms on which minors shall be placed, the extent to which a farmer must be covered by insurance, and the prevailing rate of wages.

Standards established for the program.--No students, therefore, can be released from school for farm work unless a plan has been formulated by the county commission and approved by the State commission. The act itself sets up basic labor standards. In judging the need for releasing students to supply additional labor, the principle of adequate wages, i.e., prevailing wages for similar work under comparable conditions, must be taken into consideration. Students may work no more than 8 hours a day for 6 days a week or no more than 10 hours a day for 5 days a week, and they must be paid the same wage rates as are adults for comparable work in the same local area. The act prohibits the payment of commissions or the making of deductions for placements or other services by labor contractors.

Students are expected to make up school work missed during the period for which they are released by methods and make-up programs approved by the commissioner of education.

Requirements for work camps.--The act sets up special conditions for the use of work camps. If the State commission finds that distances are too great to permit daily transportation of workers and that it is necessary to bring students in from distant areas, it may set up work camps at the place of employment if certain conditions are met. These include the written consent of the parents of the student and of the principal of the students' school and provision for transportation under conditions approved by the State commission, adequate commissary facilities, adequate living quarters meeting the requirements of the State Department of Health, and "chaperonage and supervision of the students by a competent person" employed by the person requesting the student labor. The State Board of Health has drawn up Standards for Adequate Living Quarters for Student Farm Service, which cover water supply, toilets, food protection, milk, washing facilities, dishes and utensils, waste disposal, and sleeping quarters.

The New Jersey State Commission for Student Service has discouraged the setting up of work camps where their use can be avoided because they involve many problems not present when the students continue to live at home. During the 1942 season, the commission approved the setting up of only one camp, which was located at Hammonton, New Jersey.

Placement procedures.--Actual placements have been handled by the farm-placement agent upon requests received directly from farmers or from the county agent. An "employment record card" has been developed to identify the pupil and to serve as a record to check on school attendance and "work attendance." This card is signed by the parent, the teacher or other issuing officer, the pupil, and the principal before the student goes on the job. The farmer signs and notes the dates of each day's employment to serve as proof of the student's actual presence on the job. Certification to the Department of Public Instruction on the day of absence for each released pupil is made from these cards.

Instructions to county commissions.--At the beginning of the season the executive secretary of the State Commission for Student Service sent out instructions to the chairmen of county commissions for student service, outlining policies adopted by the State commission for the use of student labor for emergency farm work. It was emphasized that "recruitment of youths for agricultural work needs to be so planned as to assure safeguards for health and welfare and to protect them from unnecessary interference with their education. There should be no desire on the part of anyone to release students from school for emergency farm work until the anticipated need for labor cannot be filled by older residents in the locality or be made reasonably available from outside the locality."

Each student is required to present a certificate signed by the local school medical inspector, or family physician, stating that he is in good physical condition and free from disease. The student must also present the written consent of his parents. The instructions stated the policy that boys should be released in preference to girls and older boys in preference to younger boys. It was also stated that school students were to be used primarily within their own local communities, so that they could live at home.

Instructions concerning camps stated that overnight summer work camps were not to be encouraged and were to be approved only (1) when the possibility of meeting farm-labor needs by day labor had been exhausted, (2) when the overnight situation could be worked out under healthful, wholesome physical conditions and with proper administrative and supervisory leadership, and (3) when farmers or social agencies interested in establishing a camp cleared their plans through the county and State commissions.

The instructions from the executive secretary encouraged county commissions to seek the cooperation of parents, youth, civic organizations, and a wide variety of groups to participate in the program. The use of vocational-agricultural teachers, 4-H Clubs, farm labor squads, Y.M.C.A., and Boy Scout leaders in an advisory and supervisory capacity was also recommended and approved.

Although the New Jersey State Commission for Student Service was established to administer the release of students from school to do farm work, the commission has assumed responsibility for the employment of school youth during summer vacations as well, and the same standards have obtained for the work of students regardless of whether school was in session or not. Instructions sent out to county commissions stressed the point that all students taking jobs except those released from school for the 15-day period permitted by law must obtain employment certificates and special permits as required by law.

Advantages of New Jersey State Commission program.

The New Jersey program has had several advantages from the point of view of effective community planning over other programs organized on a State-wide basis.

1. Organization to do the job both on State and local levels had been prescribed by law, so that the machinery with which to work was available in the beginning of the program,

2. Basic standards as to working conditions and safeguards for young workers were established by law, so that the organization could focus its attention on methods of carrying out and implementing standards instead of working to secure agreement on what the standards should be,

3. Through its executive secretary the State commission was able to give assistance and leadership to the county commissions and to coordinate the activities of all agencies and groups concerned with the emergency employment of young workers on farms.

The fact that the organization and standards are prescribed by law does not mean that there have not been many problems to be dealt with in the work of the New Jersey State Commission for Student Service as in other States. For example, there has been a serious problem of providing adequate supervision. The organization and standards set up under the New Jersey State Commission for Student Service, however, have done much to prevent some of the abuses found in States where there has been no such organization. The plan has provided that a responsible group in each community should concern itself with the conditions under which young people are to be employed. Such a local group is essential to a program that adequately protects the young workers.

The lack of a uniform provision for such a local group was one of the grave defects in the programs of California and New York. The New Jersey plan would appear to have all the prime requisites of a successful program in that it has State and local organization that is representative in character, definite standards to protect the working and living conditions of the young workers, and executive service to coordinate the program throughout the State.

WASHINGTON

Lack of a Comprehensive State Program

Provision for State and local organization in relation to the emergency employment of young workers on farms as has been described for California, New Jersey, and New York was the exception during 1942. In some States where there was extensive use of young workers and school children as emergency farm workers, community planning was nonexistent or extremely limited both on State and local levels. The State of Washington may be considered as an example of one of these States without State-wide planning.

Washington, like the other Pacific Coast States, faced a serious farm-labor shortage in 1942 and found it necessary to draw upon large numbers of young workers for harvesting work. There was, however, little coordinated planning for the use of these workers in advance of their actual placement. State planning was limited to a State committee of education officials to consider only one aspect of the program, the effect on education of the employment of school children.

The only discussion on State-wide planning was at a meeting held in late August at the call of the State superintendent of public instruction to consider the labor shortage in relation to the educational program. The conference included representation from labor, industry, education, and the armed forces. It was agreed that "the general principle of preserving the high-school youths' education must be followed throughout the State" and that students should not be asked to remain out of school for such long periods of time that their opportunity for an education would be jeopardized, but that local conditions would determine the proper action in each locality and the opening dates and school schedules should be adjusted to meet local conditions.

It was suggested that a committee of school leaders be set up to work with the State superintendent of public instruction and the War Manpower Commission "on the allocation of manpower as it affects the schools." A committee made up entirely of education officials with the State superintendent of public instruction as chairman was accordingly established.

No consideration seems to have been given by State authorities to conditions of employment for school students. Lack of planning and lack of consideration of appropriate standards was also apparent in local communities.

Recruitment of School Children in a Local Community

In an important city of the State with an acute labor shortage an informal committee composed of representatives of the War Manpower Commission, the Chamber of Commerce, the packers, the growers, the schools, and the

Farm Security Administration held several meetings to further the recruitment of children. No comprehensive plan was developed by this committee. As in other States, a registration of school students had been carried out in the schools in May. Eight hundred junior- and senior-high-school students 14 years of age and over had been enrolled in the county. But when the workers were actually needed these registrants could not be located, partly because the cards were compiled on a school basis and the school officials were gone. Therefore, the school children enrolled in the spring were not utilized and resort was made to mass appeals through the press, the radio, and through various organizations. A group of volunteers served as recruiting agents throughout various neighborhoods of the city. They reported the number of children they could supply and were given instructions as to where the workers should report for transportation. It was estimated by local officials that three-fourths of the workers recruited in this way were under 15 years of age. No individual records were kept and no check was made on adequacy of transportation or on conditions of employment.

According to school officials, the experience for the children who had registered in the schools was an extremely discouraging one. The first call for the students was to pick strawberries and this work was very satisfactory. The Parent-Teacher Association furnished hot cocoa on the farms, the children were paid 60 cents a crate of strawberries, and transportation was furnished. This had given the farm-labor program a popular start. At the time of the next emergency, however, a general radio appeal for workers was made. Although only 200 workers were needed, 750 children, most of whom were under 15 years of age, responded. The growers tried to take more workers than were needed. Children who were not taken were given carfare to return home, but many did not reach their homes until late in the evening, and parents called the employment office frantically to ask where their children were. One bus driven by a young boy broke down and the young driver left the children on the highway for most of the day. A second truck found it could not carry the heavy load, and the driver dumped 20 children off outside the city limits with no way of getting home. The whole experience was one of confusion and disillusionment to all parties concerned. As a result, no school students responded to the next call for help.

Work-Camp Project

Because sufficient help did not seem to be forthcoming through recruiting school children for work on a day-haul basis, the agricultural committee of the City War Commission requested the Council of Social Agencies to organize a work camp. A committee composed of representatives of the United States Employment Service, the Farm Security Administration, the Chamber of Commerce, and youth-serving agencies met with representatives of the growers a number of times to formulate plans for this project. This committee seems to have assumed no continuing responsibility for the operation of the camp after it was established.

The camp was organized on an emergency basis in great haste. Every effort was made to provide suitable housing and supervision, but there was insufficient consideration of basic standards. Very young children were used. Children were advertised for from 12 years of age and up, but actually children as young as 10 were reported to have gone to the camp, and a large proportion of the children were under 14. A physical examination to ascertain whether the children were physically fit to undertake the work was not required.

The child-welfare services of the County Welfare Department had not been consulted in connection with plans, nor was the Division for Children of the State Department of Social Security at any time consulted concerning plans for the employment of children as emergency farm workers.

A similar situation of rather haphazard recruiting of children without due regard to standards was found in another local community that was visited. Large numbers of children were being sent out to work in harvesting on a day-haul basis under the direction of an informal committee composed of representatives of the growers, the mayor, the county agricultural agent, the farm-placement agent of the United States Employment Service, the superintendent of schools, and the Chamber of Commerce.

It has been reported that some of the officials involved in the program felt that there should be much better State and local community planning in connection with these programs next year. When there is not such planning, the results are unsatisfactory to all persons concerned.

Relationship of Private Agencies to Over-All Community Planning

In addition to the public agencies that carry major responsibilities for the recruitment and placement of youth as emergency farm workers, many private agencies of various kinds conduct special projects, such as work camps. It is extremely important that the plans and projects of any such organizations be cleared with the agencies carrying major responsibility and that they be made in the light of the over-all plans made to meet farm-labor shortages in the area.

One camp project visited in 1942 was planned and set up by a youth-serving agency without a working relationship with the official labor-supply agencies and without consultation with specialized agencies in the State and in the community. Such agencies could have aided in setting up a project that met acceptable standards in relation to the determination of need, recruitment, selection, and working and living conditions.

The relationship that the Boy Scouts of America has worked out with the United States Employment Service illustrates a very satisfactory method of work. The Boy Scouts have conducted a variety of projects for scout participation in the Food for Freedom program. The projects have included agricultural service camps, day hauls, and placement of individual scouts on farms. The scouts have arranged with the United States Employment Service for all Boy Scouts participating in any of these projects to be registered with the Employment Service. Instructions were sent to all scout executives that Boy Scouts planning to help in meeting the farm-labor shortage should register for farm placement with the local United States Employment Service office and that all arrangements for camps should be made in harmony with plans determined by the public agencies involved.

An interesting and instructive account of how the Boy Scouts developed their working relationship with the United States Employment Service in the State of Pennsylvania with provision for close cooperation of all Scout leaders with local United States Employment Service representatives will be found in a recent report of the Rural Scouting Service. 11/

Equally good relationships have been established by the scouts with the Department of Agriculture Extension Service, the schools, and the Office of Civilian Defense.

The experience of 1942 shows that no one agency alone can carry on successfully a program for the employment of nonfarm youth under wartime conditions without the aid and cooperation of other agencies, both public and private. As Secretary Wickard has indicated, such a variety of problems and needs are to be met in connection with the use of inexperienced young people that the specialized services of a variety of agencies are required in a program that both meets the farmers' labor needs satisfactorily and adequately safeguards the health and welfare of the young workers. Consequently, carefully coordinated plans must be made for the effective use of the services of the various agencies involved in order that the use of young people may successfully help to meet wartime farm-labor shortages.

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11/ Scout Training in Agriculture issued by Boy Scouts of America, 2 Park Avenue, New York City.

THE ROLE OF THE SCHOOLS IN EMERGENCY EMPLOYMENT OF NONFARM YOUTH IN WARTIME AGRICULTURE

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Office of Education
Federal Security Agency

The case studies made by the Children's Bureau and the United States Office of Education have been thoroughly utilized by both agencies and have influenced planning of State and local programs for 1943. The basis of this chapter is the evidence in the case studies of any action taken by school authorities.

Nine functions were identified in the communities visited. These are functions that the schools performed in one or more communities.

LOCAL COMMITTEE SERVICE

It was common practice to include the county superintendent of schools on county farm-labor committees. Frequently, teachers of vocational agriculture served on these and other local committees. School representation is important for two reasons. First, inasmuch as school students are an important source of farm labor, school authorities can cooperate most intelligently if they participate in the planning and administration of the program. Second, parents hold schools responsible for the satisfactory arrangements on farms even though agencies other than the schools are really responsible for these arrangements. Membership on a local committee enables the school to meet its responsibility, at least partially, if the committee determines standards for working and living conditions.

DETERMINING WORKING AND LIVING CONDITIONS

As already stated, the schools must accept a degree of responsibility for working and living conditions. The most successful working conditions are agreed upon locally rather than imposed from without. In several communities working conditions were determined by local committees. At Southington, Conn., apple growers held two meetings with school authorities at the high school to determine bushel rates, hours, and other working conditions. Such agreements are occasionally affected and governed by State and Federal laws and regulations.

Living conditions are especially important if young workers are placed in farm homes. At Ortonville, Minn., the teacher of vocational agriculture participated in a study of farms that had applied for high-school boys. Suitable standards were set up.

In some communities camps were set up for workers who could not return home each night. These camps were usually run by local committees on which the school

were represented. For example, the county superintendent of schools was a very active committee member for the Hammonton, N. J., camp. Such committees determine the living conditions subject to local and State health regulations.

RECRUITMENT

No standard practice prevailed on recruitment. Sometimes United States Employment Service representatives, often county agents, took the initiative. Recruitment was most successful when the school authorities undertook the task, probably because understanding of the program and sympathy with it are prerequisites to successful recruitment.

The importance of a careful presentation of the program to high-school students is illustrated by the 1942 experience at Gorham, Maine. In some of the neighboring high schools the teacher of vocational agriculture made careful presentations. In other high schools, the principals were requested by phone to do hasty recruiting which usually consisted of passing out enrollment cards. Many recruits were obtained from the first group of schools and practically none from the second. Both careful presentation and understanding by school officials are important.

It is important, too, that the program be presented to large city high schools even though wartime industrial and business wages may seem to offer too great competition. It was found last year that considerable numbers of young people in town and city high schools will respond if the need for farm labor is well explained to them. Young workers questioned as to their reasons for engaging in farm work in 1942 gave a variety of answers, such as help to the nation, physical preparation for military service, love for plants and animals, interest in the rural viewpoint, and the desire to get out of doors.

Knowing the truth about living and working on farms does not discourage the best type of city boys and girls; on the contrary, it stimulates them. But since it does discourage young people if they are primarily interested in economic returns, honest presentation of the facts serves as a selective screen.

TRAINING

About one-fourth of the communities visited had some kind of training program. Prospective workers were taken out several Saturdays for training in farm skills, and in some localities boys and girls worked during week ends on farms where they were later to be employed. Members of the Future Farmers of America also invited nonfarm boys to their homes for week ends, and meetings of prospective workers were held, which were attended by farmers and others able to discuss rural problems. In most cases, however, the training program was begun just before summer employment, which precluded anything more than a desultory attempt at training.

Training was of two kinds: (1) training in farming skills, and (2) orientation. Thorough and varied training in skills was obviously impossible in the short time available. The training program at Ortonville, Minnesota, however, was begun about the first of the year and 22 meetings were held. Considerable training in farm skills was given in this instance. The fact that the high school was located quite near the farms was an important factor.

Some farmers said they preferred to teach the young people to do things as they wanted them done. It is probable that farmers overemphasize the importance or necessity of reteaching such skills as milking a cow or pitching hay. Farmers are not usually good instructors of city youth--hence, the importance of acquainting them with the four-step method, commonly called job-instruction training, developed by the Training Within Industry group of the War Manpower Commission.

Training farm labor (course 19), which is a development under the rural war-production training program in the United States Office of Education, is also devised to assist farmers in their labor-training problems. This course may or may not include job-instruction training.

Orientation of city youth for living and working on farms is seen to be gaining in importance. The successful adjustment of a city boy to a farm environment is more crucial than teaching him a few skills. Unless he realizes the importance of wartime food production, unless he becomes sympathetic with the farmers' point of view and understands the adjustments he must make, his chances of success are slight.

Orientation can be accomplished more easily while the prospective workers are still in school than after they are actually employed on farms. Orientation should be achieved through organized activities. Although some excellent printed materials have been prepared as in California and Illinois, these materials should be supplementary to practice. The following activities were used in 1942, in addition to lectures, reading assignments, and the like:

Discussions were held between farmers and work groups so that both city and farm viewpoints might be fully expressed.

Boys from the Future Farmers of America invited city boys to their homes over week ends, both for training in farm skills and orientation.

Farm safety was demonstrated and discussed.

Wartime food production was discussed with persons in authority.

City youths studied farm terms (at a farm).

City youths took trips to farms, both for training in agricultural skills and for general orientation.

In several instances orientation included "toughening" activities planned to shorten and make easier the breaking-in period during the first few days on the farm.

It was found that selection was a byproduct of training. For example, a week-end visit to a farm sometimes persuaded a city boy that his talents were in fields other than farming.

SELECTION

In one community several hundred young workers were taken out to farms to do a special job. They were observed at work, and later the less effective workers were sent home. There was no previous training or selection. This is poor labor management and worse educational procedure.

Job mortality, the percentage of workers who were discharged or who quit, varied widely. The Volunteer Land Corps in Vermont had 14 percent mortality, whereas other communities visited had percentages of 40, 50, 64, and 33. The absence of training and follow-up, as well as selection, were factors in these high percentages. Job mortality was one of the major weaknesses of the 1942 program.

Selection procedures such as interviewing and case study were seldom used. The opinion was expressed by several leaders, however, that selection is one of the most crucial factors in the utilization of nonfarm youth in wartime agriculture.

GROUP SUPERVISION

For many years, employers of young worker groups have found that good supervision is a wise investment and that lack of supervision is fatal. This conclusion is reaffirmed by the experience of many communities in 1942.

In Montgomery County, Maryland, the groups were small (four to six workers in a group), and farmers were urged to supply supervision. When this was not done, failure usually followed.

Many of the supervisors were teachers who had been released from school jobs for the summer. In small groups, a supervisor sometimes worked along with his group. In larger groups, twelve or more, the supervisor spent most of his time in recording units of work accomplished, representing the interest of the group in dealing with the employer, checking less effective workers, keeping order, preventing extreme fatigue, and the like.

Some supervisors organized their groups before school closed and kept these groups intact theough the summer. This proved a very desirable type of supervision. Preparing selected young workers to assume leadership of a group or part of a group was not observed, but this year steps are being taken to develop such leadership. The most important qualification of the supervisors is that they be able to manage and get along with young people. Ability in farm skills is not so vital, inasmuch as the group is usually concerned at any given time with one rather simple skill.

PARENTS

It was a universal practice to require the permission of the parents before young workers were employed in 1942. Difficulty in getting parents to give their permission was not a serious problem in any of the communities visited. However, several persons recommended a definite plan to familiarize parents with the program, possibly a joint evening meeting for boys and girls, parents and teachers.

SCHOOL PLANT

When workers do not live on the farms where they work and cannot return to their homes each night, some kind of work camp becomes necessary. In some cases the local school may offer its facilities for this purpose, as was done by four Montgomery County high schools. Each high school became a farm-labor camp. The gymnasium or some other room was used as a barracks, the school cafeteria was used as an eating place, and the school buses were used for transportation. A teacher or principal was employed as camp director, a program of recreation was developed, and the campers were invited to participate in community affairs.

In the Santa Clara Valley area (California) several high schools were used as "harvest field stations." Mobilizing and Directing High School Student Harvest Labor, a mimeographed report issued December 14, 1942, resulted from a meeting of high-school principals. This pamphlet may be obtained from I. H. Linder, Palo Alto, Calif.

FOLLOW-UP

The Volunteer Land Corps employed district representatives whose duties were placement and supervision of employer-employee relationships. It is generally admitted that the work of these district representatives was a primary factor in the success of this organization.

Three communities where similar follow-up of city boys on farms has existed from 15 to 20 years, were selected for visits. These communities draw upon high-school students in Central High School, in Paterson, New Jersey, Newtown High School in New York, and Jamaica Plain High School in Boston, Massachusetts. In these high schools, teachers of vocational agriculture who have been training city boys for farming have required these boys to engage in farm work under supervision during the summer months. The experience of these teachers in their city boy-farmer relationships should be of value to the youth labor representatives who are to be employed in 1943.

Other vocational-agriculture teachers have engaged in similar follow-up of nonfarm boys and girls in 1942. Under the provisions of Joint Resolution 96, the Extension Service of the United States Department of Agriculture has been assigned responsibility for this activity. In some States teachers of vocational agriculture will continue to engage in follow-up activities.

OTHER SCHOOL PARTICIPATION

The schools have made many adjustments in their programs so that students may engage in wartime food production activities before the schools are ordinarily dismissed for the summer months and after they begin in the fall. A survey of adjustments that have been made in 22 States is reported in the May 1, 1942, issue of Education for Victory, published by the United States Office of Education.

The Child
July 1943

WE ARE fighting again for human freedom aud especially for the future of our children in a free world. Children must be safeguarded—and they can be safeguarded—in the midst of this total war so that they can live and share in that future.—*A Children's Charter in Wartime.*

• YOUNG WORKERS IN WARTIME •

Supervised Student Labor on Farms

The Stockton Plan

By FRED K. SPOONER AND J. W. HALLEEN, *Stockton, Calif.*

NOTE.—Stockton is in the San Joaquin Valley; in the surrounding area grapes, tomatoes, celery, sugar beets, peaches, and other fruits and vegetables are produced. These crops are harvested by hand, and large numbers of workers are needed. San Joaquin County uses 1 percent of all the agricultural labor used in the United States. In the past migratory labor has been used to supplement resident farm labor.

New Army installations and nearby shipyards, as well as Selective Service requirements, have drawn heavily upon local labor. The Japanese and Americans of Japanese ancestry, who provided much farm labor, were evacuated. The number of migratory workers decreased as other jobs opened up and restrictions on traveling increased. During the 1942 season unusually abundant crops made the labor shortage more acute, and several methods of supplementing the available labor supply were tried. One of these was the recruitment of students as described in the following article.

The article was written by two of the three persons most active in the administration of the student-labor program. Mr. Spooner, the vice principal of one of the Stockton schools, was appointed by the school authorities as coordinator of student labor for the Stockton Unified School District, and through committee action became responsible for the administration of the student-labor program. Mr. Halleen represented the Farm-Placement Section of the United States Employment Service.

During the harvest season of 1942 a plan for the employment of school children in agriculture was developed in Stockton, Calif. The program received much favorable comment; it also received some that was unfavorable, from persons who honestly felt that the standards set were unduly high and that they imposed severe hardships on the growers. It is true that the standards were high, but the reasons behind them were practical, not idealistic. This paper is written to show how the plan evolved, through trial and error. The authors of the paper, who had a great deal to do with shaping the policies, make no claim that they did a perfect job; they just did the best they could under the circumstances.

As a result of the work of a community planning committee on farm-labor supply, the Stockton school authorities, during the last week of school, appointed a coordinator of student labor to give full time to the administration of a program of supplying students as labor for harvesting crops, with proper consideration for their welfare. The coordinator worked in close cooperation with a representative of the United States Employment Service and with a representative of the office of the county agricultural commissioner, who had recently been appointed as coordinator of farm labor in the area.[1] None of these three men had more than a vague notion of what would happen when the students hit the farms. Had they been able to foresee the headaches before them, they probably would have resigned at once.

The Cherry Season.

Before a plan of action could be set up, the labor situation reached a crisis. The area had a bumper crop of cherries, and the usual transient pickers failed to arrive. While the student-labor coordinator was still setting up files (all students from the seventh grade upward who wished to work had been registered) the growers began to demand action.

A quick call was sent out to the schools, and all boys interested were told to appear at the Employment Service Office the following morning, bringing their lunches. It was decided to accept orders only from farmers who were known to the agricultural office and the Employment Service as responsible persons. Only three requirements were made: That all trucks used be securely built and be insured; that workmen's compensation insurance be held by the grower; and that clean drinking water and individual paper cups be provided. None of the farms was inspected. Three hundred boys were loaded on the trucks in hit-or-miss fashion, without instructions; it was assumed that the growers would take care of that. The boys ranged from 13 to 16 years of age, with a few 12-year-olds sneaking in.

[1] The county agricultural commissioner is a member of the staff of the State department of agriculture; this official should not be confused with the county representative of the State extension service.

By noon of that day it was apparent that someone had erred. The five growers who had taken boys were all dissatisfied—even hostile. Two definitely refused to have anything further to do with student workers. The other three were rather dazed but were willing to try again.

What had happened was that none of the growers had been ready with enough equipment for the boys. Only one of them had a foreman who had the patience to handle the situation. The boys had climbed the trees while waiting for ladders, thrown cherries at each other and at adult workers, broken branches and ruined the trees while picking, played tag in the packing sheds, smashed buckets, shrieked and yelled, spilled drinking water, and in general had done everything but pick cherries satisfactorily. On the way back the boys had thrown cherries at passing cars and shouted rude pleasantries at bystanders.

If the farmers were dazed, the directors of the program were more so. They began to pick up the pieces as best they could. They immediately decided to inspect each farm before sending any students to it, in order to see that the necessary equipment was ready and that the grower had provided a foreman who would handle ladders and who could cope with the boy-worker situation. The directors further decided to insist that the students be kept away from adult pickers. A plan was made to have each new group of students met at the orchard by a staff member from the agricultural commissioner's office, who would give them the needed instructions. An arrangement was made with the school district in which the orchards were located, to transport students in school busses for 40 cents each (for a distance of 12 to 16 miles one way). This cost was split equally between grower and student. It was also decided to send only boys at least 15 years old and weighing at least 125 pounds, and to keep the groups smaller—30 was set as a maximum number. Finally it was planned to have the boys assemble at a centrally located schoolhouse and to assign each group definitely to a certain grower.

This program worked a little better, but complaints still came in. The boys did not seem to take the work seriously; they did not stick to the job. There were far too many boys walking away from the job and too much horseplay. The hours were too long; the farmers insisted upon the boys' actually working 8 hours at least. This, with the time spent in transportation, delays in paying off, and so forth, made the days very long. The boys often got back to town very late. The program directors were getting a little tense.

Then it happened. An elderly grower applied for workers. The agricultural representative inspected the farm and found no one there who could possibly handle the boys. He was unwilling to certify the job until a foreman selected by the directors was engaged. The farmer agreed, and an elementary-school principal was hired at $5 a day (to be paid by the grower) to take complete charge of the job. To this job were assigned the boys who had been the greatest troublemakers on other farms. Much to the surprise of everyone, the arrangement worked. This crew made more money than any of the others, although the crop was no heavier than on other farms. Everyone was satisfied. It was the one bright spot of the cherry season, which was, by this time, about over.

Revamping the Program.

Between the end of the cherry season, in late June, and the fall harvest of pears, peaches, tomatoes, grapes, and walnuts, the directors carefully analyzed their experiences to see how the program could be made better. Files were brought up to date, and possible supervisors approached. It was agreed that no students should be used in the harvest until all available regular workers were employed in order that no duplication of services might occur. It was agreed also that the Employment Service should handle the orders for labor, and the school department should recruit the students. The agricultural department was to handle all farm inspections, and no orders were to be filled until the job was certified by it. Later check-ups were to be made by representatives of the three agencies, as often as possible jointly.

The United States Employment Service made careful surveys of all crops in the county, analyzing production and estimating labor needs. These needs were broken down as to period and length of activity and type of labor required and in relation to probable source of labor. The school coordinator by this time had a fairly good picture of the student labor available. The next step was to survey jobs that could be done satisfactorily by students and other inexperienced workers. It was found that most harvest work, as well as certain processing activities, could be done by inexperienced workers, particularly on fruit and vegetable crops. It was decided to concentrate the use of this type of labor on the peach, apricot, grape, nut, onion, and tomato harvests.

The problem of insurance was difficult. All three directors agreed that the student workers should have protection, and the student-labor coordinator was especially interested, as he was

uncertain how much liability he and the school district were incurring through recruiting and placing youngsters. Workmen's compensation insurance was to be insisted upon (as it had been from the start of the program), and accidents in transportation were to be covered by liability insurance for bodily injury and property damage. The amount of liability insurance for bodily injury differed according to the size of the vehicle and the number of students to be transported in it; but the insurance policy was not acceptable to the directors unless it provided, for the smallest vehicle, coverage up to $50,000 for an injury or fatality to one person in one accident, and up to $100,000 for injuries or fatalities to more than one person in one accident.

The type and amount of insurance carried by each grower with whom young persons were to be placed was verified with the insurance company by the school coordinator, and the Employment Service representative explained the requirements to the growers. This overlapping of functions, without friction, was characteristic of the administration of the program. It often seemed best to have the representative of one agency attend to things that would appear on an organization chart as the duties of the representative of another.

Most of the transportation difficulty was the result of the newness of the situation to the farmers. They had never before been confronted with this problem and were unprepared for it. There was, fortunately, only one transportation accident—a minor one. One of the amazing things about the season was the small number of accidents, none of them serious. The student-labor coordinator investigated each accident carefully, requiring a report on each from the supervisor on the job and checking with the physician and the child's parents until the injury was healed.

The Peach Season.

During the peach season, large numbers of girls were employed in the peach dry yards cutting fruit. One of the requirements was that the employment be in conformity with Federal and State legislation regulating employment and work permits.[2] This was particularly difficult to do, as a yard often began as a private, or one-farm yard, and later expanded, doing work for neighbors. The problem of sanitation had to be met, and students were not sent to any growers whose yards had inadequate toilet facilities. It was also considered best to require a 15-minute rest period for girls in the middle of both forenoon and afternoon. Where large numbers of girls worked in a single yard (over 10 was considered a large number) a supervisor was selected by the school coordinator (and paid $5 a day by the farmer), to act as "forelady." The supervisor had a difficult position, for not only was she supposed to keep account of each girl's earnings on a piece-work basis and be responsible to the farmer or packer for the quality of the work done, but she had to insist upon the rest period, make sure that the girls were not required to lift heavy trays, and see to it that the girls were not discriminated against by being given undersized fruit to cut. A crew was withdrawn from the yard of a packer who seemed determined to impose upon the girl workers in this way.

When the peach harvest began another group of agencies was brought into the program. Several farming communities had set up local labor-procurement offices, financed by growers. These agencies worked in cooperation with the United States Employment Service, the agricultural representative, or the school coordinator (each agency checking with the others before taking final action) to good advantage. During the peach harvest a number of crews of boys (never more than 10 boys in a crew) were placed with selected farmers to work without supervision. This arrangement worked well in all but one case, in which it was necessary to threaten action by the labor commissioner before the boys were finally paid. Crews of more than 10 were handled on the supervisory basis.

During the peach season only school busses were used for transportation. The same arrangement was made as for the cherry harvest. Students and supervisors were assigned to definite jobs, and were checked on and off the busses by the school coordinator with the aid of the supervisors. The coordinator was thus able to tell where each student was during every working day and to assure the parents of any who loitered on the way home from the school assembly point that a safe round trip had been made. The peach season was the golden age of the program. Pressure was not too heavy, all the needed agencies were cooperating, transportation of a high standard was available, and the program directors had begun to have faith in themselves and in their fellow men.

The Grape Season.

One experience with the grape harvest is notable. A responsible grower was given a crew of 30 boys and a supervisor. By this time the supervisors' pay had been raised to $7 a day.

[2] Editor's note.—On August 6, 1942, early in the peach season, Child Labor Regulation 3 under the Fair Labor Standards Act was modified to permit employment of children 14 and 15 in peach and other dry yards (this was also legal under the State law), subject to specified conditions.

The grower was so pleased with the boys that he personally recruited at the school assembly point a group of girls for packing. The wife of the grower acted as "forelady," and all requirements, such as those regarding permits and sanitation, were observed. This grower, incidently, gave the supervisor of the boys a bonus of $25 at the end of the 3-week period.

The Tomato Season.

The tomato harvest was late; it did not get under way until after school opened, October 1. San Joaquin County produces 6 percent of all the canning tomatoes grown in the United States. The labor included two parts: picking and canning. Up to this time the canneries had been able to handle most of their own labor problems, calling upon the school coordinator only a few times, at the peak of the peach season. Many boys had been given advice as to how to obtain cannery work, but few definite placements had been made. However, the community had four canneries that were packing tomatoes, and some adjacent communities had twice as many.

Now that school was starting, the student-labor coordinator and the Employment Service representative got in touch with the principals of the two local high schools, the placement officer of a nearby junior college, and the superintendent of the local can factory, who had previously made contact with the canners. It was decided to cut the school programs of all secondary schools to a half-day program—this was done by cutting the length of periods—to attempt to man the canneries with junior-college and college students (and other nonprofessional workers) working 4-hour shifts, and to let high-school students, working not more than 4 hours a day, pick the tomatoes. The 4-hour cannery shift was immediately opposed by the canners on the ground that there was no law prohibiting persons 18 and over from working longer hours, but as the school authorities refused to cooperate on any other basis the canners agreed.

The shortening of the secondary-school day received many justified criticisms. Of the 3,000 students enrolled, the number of students working on an average day was a little over 300. However, some 1,000 students were working at other jobs, and the 300 daily average was maintained by a pool of about 500 students.

There were other difficulties. The inspection service had been withdrawn; this made it necessary to skip some crop surveys. A new group of farmers was being served, and these had to be educated in the proper ways to handle students. Transportation was makeshift, although insurance standards were kept up and fortunately no one was injured. Farmers were short of equipment; buckets were not obtainable and boxes had to be used for much of the picking and often crews had to be laid off for a day for lack of boxes. The farmers had not solved their crop-transportation problems. Many of the growers were amateur farmers who had purchased bargain crops from evacuated Japanese. Conflicting orders so confused the boys that in some cases they resorted to the only thing they were sure they knew how to do—throw tomatoes. There was a tendency at first for growers to give the students poor picking and to reserve choice crops for "professional" crews.

Both boys and girls were used, often in mixed crews; the supervisor of a mixed crew might be a man or a woman teacher. In general, teachers who taught physical education, shop, band, and so forth, to large groups of students were more successful as crew supervisors than teachers of formal subjects. There were, however, notable exceptions.

The lack of sanitary conveniences was serious, and there did not seem to be any way to better this situation quickly. Drinking water was not a bad problem during tomato harvest, as most students found that tomatoes from the vine quenched their thirst better than water.

The hours of the students were too long; they began school at 7 o'clock in the morning and did not usually arrive home until after 6 o'clock at night. The growers were insistent on a 7-day week, and to prevent loss of crops the coordinator compromised by recruiting special Sunday crews, mostly 14-year-old boys (from the upper grades of elementary schools) and their parents.

In spite of the handicaps, including bad weather (which alternated between excessive heat and rain), the students averaged more than 3,000 boxes of tomatoes a day for 30 days. The supervisors were paid 90 cents an hour. The students were paid on a constantly rising scale which began at 12 or 14 cents a box and ended at 16 to 22 cents a box. The best pickers made from $6 to $8 a day of 4 hours. Those who could not make $3 were thought to be too slow to send out again.

Coordination the Key to Success.

In the light of the Stockton experience it appears that if any successful utilization of student and other inexperienced farm labor is to be accomplished, there must be complete coordination of effort of all groups concerned—civic, Federal, State, and county—through a central control agency, with a single person responsible for administrative direction. The successive steps that were found essential in

working out the program were the analysis of crops and crop production; the recruitment and referral of workers, both full time and part time; the centralization and verification of employer orders for workers and the inspection of the farms for equipment, sanitary facilities, and drinking-water supply; and the organization of transportation, including arrangements for adequate coverage of all transportation by public-liability insurance.

The most important factors from the standpoint of smooth operation seem to be, in order of importance, supervision, farm inspection, education of the growers, transportation, recruitment, and assignment. From the standpoint of child welfare the important points are insurance (both workmen's compensation and insurance covering transportation), hours, age, drinking water, sanitary conveniences, safety equipment, and protection from exploitation.

Standards for Working Conditions of Minors Under 18 in Agriculture

Adopted for Stockton

1. Each grower ordering student labor must be interviewed and his ranch inspected;

2. Growers employing children must carry workmen's compensation and public-liability insurance covering transportation;

3. A supervisor, satisfactory to the inspector, must accompany each group of 10 or more children;

4. Student crews must be segregated from other workers;

5. An 8-hour day must be the maximum for crews including any members under 16 years of age;

6. New crews must be trained at the ranch by a member of the county agricultural-department staff;

7. Crews must leave the assembly point and be returned by the grower at specified times;

8. Transportation must be by school bus, or safe trucks with solid sides, closed backs, and adequate seating arrangements, driven by a licensed chauffeur;

9. The minimum age must be 15 years, and the minimum weight 125 pounds for young workers doing difficult work such as fruit picking;

10. Ladders must be moved by adults;

11. Drinking water must be obtained from a source used by the ranch family for a prior period of 30 days without illness, and individual cups must be provided.

12. Later, when girls were placed through the program, standards were revised to require a rest period of 15 minutes in the morning and afternoon and a 1-hour lunch period.

A limited supply of reprints of this article will be available from the Children's Bureau, Washington, D. C.

BOOK NOTES

Trend of Child Labor, 1939 to 1942, by Ella Arvilla Merritt. *Monthly Labor Review*, Vol. 56, No. 3 (March 1943), pp. 450–467. Reprints available from Children's Bureau.

That there is a very large increase in the number of boys and girls between 14 and 18 years of age going to work throughout the country is shown by figures for employment certificates issued that are reported to the Children's Bureau. Employment certificates reported for 14- and 15-year-old children going to work full-time or part-time increased from approximately 37,000 in 1940 to nearly 66,000 in 1941; and those for 16- and 17-year-old boys and girls, from about 160,000 to more than 370,000. These reports do not show illegal employment, which is increasing, nor do they include children going to work in occupations for which certificates are not required.

In some of the States and cities for which 1942 figures were available the percentage increase from 1940 to 1942 in regular and vacation certificates issued was very striking. For instance, for 14- and 15-year-old children the increase ranged from 182 percent in North Carolina to 541 percent in Pittsburgh, Pa.; and for 16- and 17-year-old minors, from 176 percent in North Carolina to 838 percent in Oregon.

Wartime Employment of Boys and Girls Under 18. Children's Bureau Publication 289, Washington, 1943. 16 pp.

This pamphlet points out the dangers implicit in the tremendous increase in the number of boys and girls under 18 leaving school for work and stresses their need for protection from loss of educational opportunity and from undue physical strain and work hazards. Available data on the number, age, sex, and occupation of young workers under 18 are discussed, and developments in the field of child-labor and school-attendance laws are reviewed. In conclusion, the principles that should underlie plans for the wise participation of youth in wartime employment are outlined.

Security for Children in Post-War Years

Objectives of State and Community Action

By Emma O. Lundberg

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Note.—Preprinted from revised edition of Our Concern—Every Child. The first section, The Welfare of Children in Peace and in War, appeared in *The Child* for June 1943.

The objectives that have been defined for the children of this Nation will not be attained through declarations of ideals and principles but through effective action in each State and in each community. Fulfillment of some of these aims will require assistance by the Federal Government to enable State and local units to provide essential resources for the health, education, and social-welfare needs of children. In addition to their direct responsibilities for child care and protection, safeguarding health, and promoting education, States have the important task of providing leadership and financial aid to local units of government. But it is upon the thousands of local communities throughout the country that the chief responsibility rests for initiating and for carrying through the measures that are needed if all their children are to be protected in their inherent rights to the security of a home, health protection, and educational and recreational opportunities.

Security of the Home

Secure family life is the background of child welfare. Programs for social insurance, public assistance, and prevention of unemployment, and for improving housing, safeguarding public health, and making more generally available the essentials of an American standard of living are being formulated as fundamental parts of post-war planning. These are basic measures for the protection of children. No ameliorative or child-caring activities can compensate a child for the loss of the security which he should find in his home; no protective measures can make up to him for malnourishment and unsanitary living conditions in childhood.

Economic security which will make it possible for families, wherever they may live and whatever may be their station in life, to provide for their families in accordance with a decent standard of American living is the first and by far the most important step in preserving home life. The greatest cause of child dependency—broken homes—would be greatly reduced by various forms of social insurance which lessen the burden of families when the death or disability of the wage earner threatens the stability of the home. Well-administered and adequate public assistance to families who require such aid in order to give their children proper care is an essential part of the program for family security.

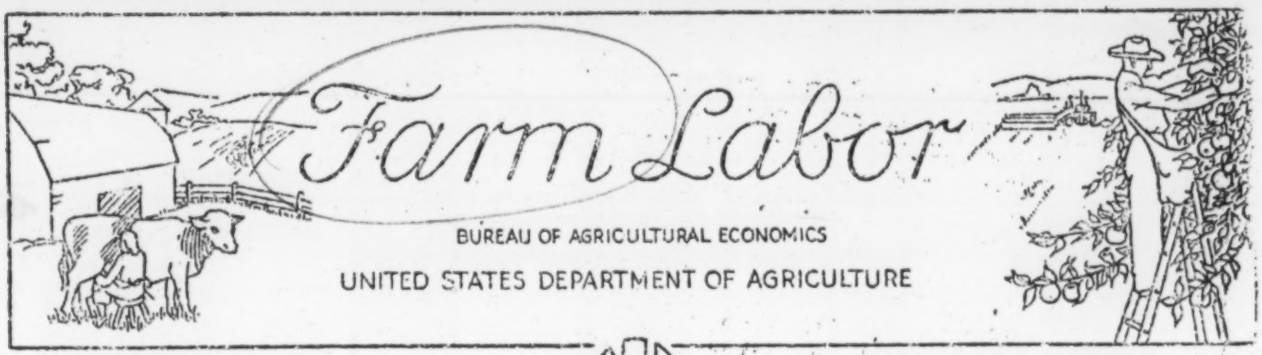
For more than 30 years public aid to dependent children in their own homes has been emphasized as a primary child-welfare measure, and within the past few years, through the Social Security Act, great advance has been made in provision for children deprived of parental support. The assistance given under this form of public aid is still far from adequate in most of the State and local units of government, both with respect to the adequacy of family grants and the small proportion of children in each community in need of such aid who are receiving assistance. Consideration should be given to measures which would equalize Federal grants to States, and State aid to local units, in accordance with the financial ability of the State or the local unit to supply the necessary funds. With the help of the State administrative agency, every community should make a careful study of the need for aid to children in their own homes, the extent to which the need is now being met, and the strengths, the shortcomings, and the financial resources of the responsible administrative agency, and should face the question of how this form of assistance may be made a more effective instrument in preserving home life in the post-war years.

Protection of Child Health

In order that the health of its citizens may be protected, States have provided health services,

OCCUPATIONS

AGRICULTURE - 1944



Washington, D. C. BAE October 13, 1944

WOMEN'S BUREAU
OCT 18 1944
DEPARTMENT OF LABOR

FARM EMPLOYMENT HITS NEW OCTOBER LOW

The smallest farm labor force of record is harvesting one of the biggest production of full crops this country has ever raised, the U. S. Department of Agriculture reported today. The job is being accomplished through efficient use of available workers and machinery, working more hours per day and more days per week by lengthening the time of harvests and the employment of large numbers of farm women, children, townspeople, war prisoners, foreign workers, and others not normally a part of the farm labor force. Despite the utilization of workers from unusual sources, the number of people working on farms October 1 was slightly lower than at the same time last year and 5 percent less than the 1935-39 October average, when crop production was much smaller than this year. Farm wage rates averaged 16 percent higher on October 1 than for the same date last year; the index of farm labor supply remained unchanged and the demand index declined 1 point.

Of the 11,839,000 persons working on farms the first of October, 8,928,000 or 75.4 percent, -- the highest percentage in more than a decade -- were unpaid family workers. A year earlier there were 11,938,000 persons doing farm work, 8,834,000 of these being family workers. Hence the slight decline in total farm employment is accounted for entirely by a drop of 6 percent since October 1943 in number of hired workers. Nearly all sections of the country recorded fewer hired workers than a year ago with the largest decline occurring in the East North Central region. The decrease of 6 percent in number of hired workers from October 1943 to October 1944 for the country as a whole is in agreement with similar declines recorded monthly throughout most of this year. The scarcity of competent help and in some instances, relatively high wages, have caused some farm operators to decide to "get by" without hiring additional workers.

The October 1 index of farm wages was 325 percent of the 1910-14 average, 46 points or 17 percent higher than on October 1, 1943 and 160 points higher than on October 1, 1941 just before Pearl Harbor. The 46 point rise from last October was not so great as the 60 point rise made between October 1, 1942 and the same date in 1943 which was the greatest increase ever recorded within a year's time. Gains in wage rates from last October were shown by all regions and ranged from 32 points in New England to 50 points in the West South Central region.

All four classes of farm wage payment rose about the same (17 percent) from October 1, 1943. The rate per month with board was $76.40 on the first of October compared to $65.22 a year earlier; per month without board $86.80 compared to $74.92; per day with board $3.72 compared to $3.17; and per day without board $4.08 compared to $3.51. At this season of the year a great many farm workers are being paid at a daily rate without board. This rate varied greatly throughout the country ranging from $2.77 in the South Atlantic region to $7.65 on the West Coast. These differences reflect regional variations in skill of workers, volume of output, living costs, sex and age of workers, available supplies of workers, and other factors in addition to actual differences in the general level of all wage rates.

The supply index at 56 percent of the 1935-39 average is the same as last October 1, but is 14 points or 20 percent lower than on October 1, 1941. Most of the regions showed small increases over last October. However, nominal decreases are indicated in the West North Central, South Atlantic and West South Central regions. New England continues to have the lowest supply index but at 48 it represents an increase of 4 points over a year ago, the largest gain for any region. The Pacific region now records a supply index of 64 compared to 62 last October, 47 in October 1942, and 69 for October 1, 1941. In general, the farm labor supply situation appears somewhat less stringent than a year ago.

The U. S. index of demand for farm labor on the first of October was 124 percent of the 1935-39 average or 1 point lower than for October 1943 and 1942 but 6 points higher than in October 1941. Slight declines in demand from October 1943 were shown for all regions east of the Mississippi except the East South Central which remained unchanged at 125 percent of the 1935-39 average. The index for the Pacific region, also, was the same as October 1943, but slight upturns were shown for the West South Central and Mountain regions.

The effectiveness of the various local and national programs in obtaining farm workers and in using them efficiently is no doubt responsible to a considerable extent for the improved farm employment situation. Foreign workers brought into the country to help on farms have, for the most part, proved very satisfactory, and it is probable that considerable acreages of some crops have been saved that otherwise would have been lost without this assistance. As of September 30, there were 63,819 Mexican Nationals, 16,678 Jamaicans, 897 Barbadians, 5,407 Bahamians and 986 Newfoundlanders employed on farms in the United States. About 90 percent of the Mexicans were employed on farms in the Western States. Michigan is using about 2,200, and in the Red River Valley of North Dakota and Minnesota about 1,500 Mexican Nationals were working in the sugar beet fields. Other foreign workers were helping to harvest fruit -- especially apples, potatoes, some truck crops, and other miscellaneous crops. Under an arrangement between the Canadian and United States Governments, about 1,400 Canadians came into Aroostook county, Maine for the potato harvest. War prisoners are being used in considerable numbers in a wide range of jobs including digging peanuts, picking cotton, cutting cane, harvesting rice, and pulling and topping sugar beets.

New England: Between October 1, 1943 and October 1, 1944 the wage rate index increased 32 points, family employment increased 2 percent, but hired employment declined 10 percent. With the harvest of apples, potatoes, and field corn in progress generally during the past month, farm labor needs have been at the peak for the year. Farm labor requirements have been somewhat reduced by the lighter cranberry crop and by the more normal potato crop in Maine

as compared with last year. The windfall of apples in mid-September temporarily "peaked-up" the apple harvest job, and the harvest of wind-whipped corn has required more hand labor. Farm work was facilitated by pleasant weather during most of September.

Middle Atlantic Region: The hurricane which struck part of the Middle Atlantic region in September caused considerable damage to crops, especially fruit orchards, and created heavier than usual needs for farm workers. In general, however, favorable weather prevailed for farm work, and fall harvest operations have proceeded rapidly. The wage rate index was up 39 points from last October.

The situation in the North Central region relative to the supply of and demand for farm labor appears better in October this year than for any fall since our entry into the War. An important contributing factor has been the favorable weather that has prevailed over most of this area, enabling farmers to make maximum use of the time of all available workers and equipment. Wage rates are about 14 percent higher than a year ago which may account in part for the decline in number of paid workers on farms in this area and for the somewhat lower indexes of demand for farm workers in the East North Central and West North Central regions.

The farm employment situation in the South appears to be about the same as last fall except that wage rates have risen sharply. The number of people working on farms has not changed materially from October 1943, and the supply and demand indexes do not indicate a significant change in the farm employment situation. Cotton growers have experienced favorable weather for picking the cotton crop which is about 5 percent larger than that of last year. Wage rates are up about 20 percent from October 1943.

Mountain States and Pacific Coast: In October 1941, the index of supply of farm workers was the same (69 percent of the 1935-39 average) in both the Mountain and Pacific regions. This was just before we got into the war. A year later, in October 1942, the index was again the same for the two regions but had dropped to 47. By October 1943 the index for the Mountain States had risen to 53 and for the Pacific region to 62. On October 1 this year, the indexes were 57 and 64 respectively for the Mountain and Pacific regions. It appears, therefore, that the farm labor situation on the West Coast has improved more than it has in the Mountain States. Wage rates increased nearly 18 percent from October a year ago in the Mountain region compared to 12 percent in the Pacific region. The latter, of course, has a higher level of rates than does the Mountain region. The total number of people working on farms in the Mountain region decreased 5 percent compared to only 1 percent for the Pacific region, and the latter shows no decline in number of hired workers, whereas a 10-percent decrease is recorded for the Mountain region. Compared to a year ago, the farm employment situation is relatively less favorable in the Mountain States than on the West Coast.

Farm wage rates and related data, United States, October 1, 1944, with comparisons

	Annual average 1910-14	Annual average 1935-39	Oct. 1, 1943	July 1, 1944	Oct. 1, 1944
FARM WAGE RATES					
Per month, with board	$22.09	$26.01	$65.22	$77.79	$76.40
Per month, without board	29.18	34.17	1/ 74.92	89.54	86.80
Per day, with board	1.16	1.23	3.17	3.58	3.72
Per day, without board	1.42	1.50	3.51	4.06	4.08
FARM WAGE RAGE INDEXES					
Unadjusted	100	118	1/ 279	328	325
Adjusted for seasonal variation	100	118	1/ 271	318	316
FARM WAGE RATE INDEXES BY REGIONS					
New England	100	143	298	324	330
Middle Atlantic	100	129	1/ 275	306	314
East North Central	100	115	256	286	291
West North Central	100	98	281	297	322
South Atlantic	100	111	223	261	267
East South Central	100	101	213	239	261
West South Central	100	102	247	291	297
Mountain	100	106	266	302	313
Pacific	100	129	345	381	387
FARM EMPLOYMENT(thousands of persons)					
Total	12,052	10,920	11,938	11,040	11,839
Family labor	9,160	8,353	8,834	8,223	8,928
Hired labor	2,892	2,567	3,104	2,817	2,911
FARM EMPLOYMENT INDEXES (Adjusted for seasonal variation)					
Total	100	91	84	82	84
Family labor	100	91	87	84	87
Hired labor	100	89	80	78	75
FARM LABOR SUPPLY AND DEMAND INDEXES					
Supply as percent of normal	---	100	56	55	56
Demand as percent of normal	---	100	125	125	124
RELATED INDEXES					
Prices received by farmers 2/	100	107	194	192	3/ 192
Ratio of prices received to farm wage rates	100	91	70	59	59

1/ Revised.
2/ Average of the 15th of the given and the 15th of the previous month.
3/ September 15, 1944 - latest data available.

Based on reports from 19,347 farmers.

Farm wage rates, by geographic divisions, October 1, 1944, with comparisons

Geographic division	Annual average 1910-14	July 1, 1943	Oct. 1, 1943	July 1, 1944	Oct. 1, 1944
	Dollars	Dollars	Dollars	Dollars	Dollars
FARM WAGE RATES					
Per month with board					
New England	24.18	69.47	72.80	80.73	82.00
Middle Atlantic	22.25	61.19	62.00	70.09	71.40
East North Central	23.75	59.29	60.50	67.98	68.90
West North Central	26.32	68.02	73.40	81.18	84.70
South Atlantic	14.62	32.75	32.80	38.55	39.20
East South Central	14.71	30.85	31.30	36.28	37.30
West South Central	17.35	43.01	44.30	53.27	54.00
Mountain	32.48	82.69	85.80	101.23	103.00
Pacific	33.45	114.54	118.00	134.88	135.00
Per month without board					
New England	37.70	102.07	108.40	118.56	119.00
Middle Atlantic	33.41	1/87.27	1/89.00	100.66	102.00
East North Central	32.80	80.70	82.10	92.00	93.70
West North Central	36.86	87.35	93.10	101.76	106.00
South Atlantic	20.97	46.54	45.60	53.04	53.60
East South Central	20.80	42.13	43.20	49.76	51.40
West South Central	24.93	58.13	61.10	71.83	72.70
Mountain	46.42	109.15	115.40	129.90	135.00
Pacific	48.16	150.38	153.30	169.94	173.00
Per day with board					
New England	1.27	3.54	3.86	4.15	4.32
Middle Atlantic	1.24	3.37	3.56	3.80	4.04
East North Central	1.31	3.32	3.47	3.82	3.95
West North Central	1.46	3.55	4.44	4.30	5.07
South Atlantic	.81	1.74	1/1.80	2.16	2.27
East South Central	.81	1.54	1.71	1.92	2.17
West South Central	.98	2.24	2.43	3.03	2.98
Mountain	1.50	3.82	4.42	4.54	5.04
Pacific	1.49	5.24	5.60	6.10	6.19
Per day without board					
New England	1.71	4.48	4.88	5.13	5.34
Middle Atlantic	1.63	4.33	4.49	4.71	4.97
East North Central	1.68	4.07	4.34	4.67	4.82
West North Central	1.88	4.44	5.54	5.19	6.08
South Atlantic	1.05	2.19	2.28	2.64	2.77
East South Central	1.05	1.96	2.20	2.41	2.80
West South Central	1.25	2.70	2.95	3.39	3.54
Mountain	2.05	4.85	5.34	5.63	5.89
Pacific	2.06	6.50	7.08	7.39	7.65

1/ Revised.

Farm employment, United States and geographic divisions,
October 1, 1944, with comparisons

TOTAL FARM EMPLOYMENT

Geographic division	Oct. average 1935-39	Sept. 1, 1943	Oct. 1, 1943	Sept. 1, 1944	Oct. 1, 1944
	1,000's	1,000's	1,000's	1,000's	1,000's
United States	12,389	11,502	11,938	11,040	11,839
New England	273	290	276	271	268
Middle Atlantic	672	723	704	694	677
East North Central	1,551	1,541	1,464	1,477	1,439
West North Central	1,725	1,793	1,661	1,766	1,671
South Atlantic	2,451	2,167	2,312	2,099	2,341
East South Central	2,275	1,862	2,171	1,689	2,207
West South Central	2,339	1,757	2,190	1,710	2,107
Mountain	488	539	486	519	462
Pacific	615	830	674	815	667
FAMILY WORKERS 1/					
United States	9,190	8,402	8,834	8,223	8,928
New England	168	185	170	171	173
Middle Atlantic	418	446	429	448	423
East North Central	1,156	1,223	1,152	1,191	1,165
West North Central	1,347	1,380	1,337	1,389	1,348
South Atlantic	1,825	1,629	1,713	1,585	1,790
East South Central	1,919	1,549	1,782	1,445	1,816
West South Central	1,737	1,308	1,616	1,311	1,591
Mountain	293	326	311	328	304
Pacific	327	356	324	355	318
HIRED WORKERS					
United States	3,199	3,100	3,104	2,817	2,911
New England	105	105	106	100	95
Middle Atlantic	254	277	275	246	254
East North Central	395	318	312	286	274
West North Central	378	413	324	377	323
South Atlantic	626	538	599	514	551
East South Central	356	313	389	244	391
West South Central	602	449	574	399	516
Mountain	195	213	175	191	158
Pacific	288	474	350	460	349

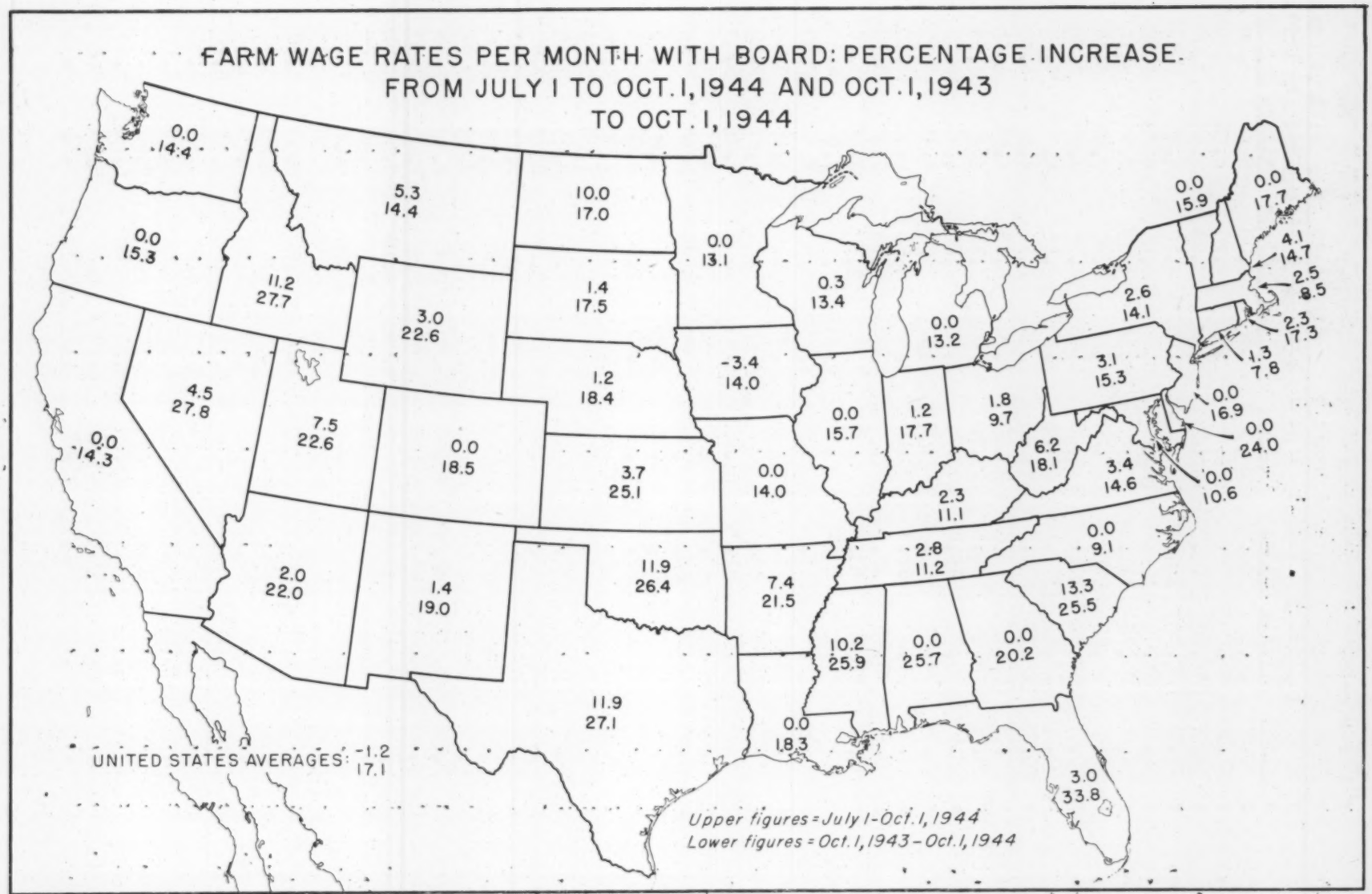
1/ Including farm operators and members of their families working without wages.

Based on reports from 19,347 farmers who reported for their own farms the number of family and hired workers doing 2 or more days of work during the week of inquiry.

Farm wage rates, by States, October 1, 1943 and October 1, 1944

State	Per month with board		Per month without board		Per day with board		Per day without board	
	1943	1944	1943	1944	1943	1944	1943	1944
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Maine	73.50	86.50	106.00	123.00	4.75	4.90	5.50	6.00
N.H.	66.25	76.00	99.00	115.00	3.70	4.30	4.65	5.40
Vt.	66.00	76.50	94.00	104.00	3.55	3.95	4.55	5.00
Mass.	76.50	83.00	117.00	123.00	3.60	4.10	4.80	5.10
R.I.	75.00	88.00	119.00	125.00	3.60	4.25	4.75	5.40
Conn.	74.00	79.75	111.00	121.00	3.55	4.35	4.70	5.10
N.Y.	69.00	78.75	96.50	110.00	3.80	4.40	4.85	5.40
N.J.	71.00	83.00	101.00	119.00	3.80	4.20	4.70	5.30
Pa.	50.75	58.50	1/76.50	86.25	3.20	3.55	4.00	4.35
Ohio	51.75	56.75	72.00	79.50	3.25	3.70	4.10	4.50
Ind.	53.75	63.25	76.00	85.50	3.30	3.75	4.05	4.45
Ill.	65.25	75.50	82.50	95.75	3.60	4.15	4.40	4.95
Mich.	62.50	70.75	88.25	100.00	3.65	4.20	4.70	5.20
Wis.	65.25	74.00	89.25	103.00	3.50	3.90	4.40	4.90
Minn.	74.25	84.00	95.75	106.00	4.45	4.95	5.50	6.10
Iowa	75.25	85.75	92.00	107.00	4.30	4.75	5.20	5.70
Mo.	50.00	57.00	63.50	74.00	2.60	3.10	3.30	3.80
N.Dak.	94.00	110.00	119.00	135.00	6.40	7.20	7.90	8.50
S.Dak.	78.75	92.50	101.00	117.00	4.70	5.50	5.60	6.50
Nebr.	70.50	83.50	91.00	105.00	4.20	4.80	5.10	5.80
Kans.	61.75	77.25	84.00	101.00	3.85	5.20	4.85	6.10
Del.	55.25	68.50	81.00	91.00	3.60	4.35	4.35	5.80
Md.	52.00	57.50	70.00	80.00	3.30	3.90	4.10	4.60
Va.	39.50	45.25	55.00	61.00	2.25	2.75	2.90	3.35
W.Va.	40.00	47.25	56.25	65.25	2.20	2.45	2.80	3.05
N.C.	38.50	42.00	52.00	57.00	2.00	2.50	2.50	3.00
S.C.	25.50	32.00	35.25	42.50	1.30	1.65	1.65	2.05
Ga.	26.00	31.25	35.25	44.75	1.50	1.95	1.90	2.35
Fla.	38.50	51.50	62.00	73.00	2.15	2.75	3.00	3.75
Ky.	40.50	45.00	55.00	61.00	2.10	3.00	2.75	3.80
Tenn.	33.50	37.25	46.00	51.50	1.70	2.00	2.15	2.50
Ala.	28.25	35.50	39.50	48.50	1.65	2.00	2.10	2.60
Miss.	28.00	35.25	39.00	49.25	1.60	2.05	2.05	2.65
Ark.	36.00	43.75	49.50	60.50	1.90	2.40	2.45	3.05
La.	30.00	35.50	43.50	50.25	1.80	2.10	2.25	2.60
Okla.	50.25	63.50	69.00	87.75	3.05	4.10	3.50	4.50
Tex.	53.50	68.00	72.75	89.25	2.85	3.60	3.40	4.15
Mont.	104.00	119.00	131.00	145.00	5.90	6.60	6.50	7.10
Idaho	101.00	129.00	126.00	158.00	5.10	6.00	6.30	6.70
Wyo.	84.00	103.00	112.00	136.00	4.20	4.60	5.40	5.70
Colo.	74.25	88.00	104.00	121.00	4.20	4.80	5.20	5.90
N.Mex.	63.00	75.00	86.25	99.00	3.20	3.90	3.70	4.60
Ariz.	82.00	100.00	123.00	135.00	3.50	4.00	4.55	5.10
Utah	93.00	114.00	118.00	145.00	4.00	4.50	4.80	5.40
Nev.	90.00	115.00	115.00	150.00	4.00	5.00	5.00	6.10
Wash.	118.00	135.00	160.00	176.00	6.00	6.80	8.00	8.20
Oreg.	111.00	128.00	143.00	163.00	5.60	6.20	6.60	7.50
Calif.	119.00	136.00	153.00	173.00	5.50	6.00	6.90	7.50
U.S.	65.22	76.40	1/74.92	86.80	3.17	3.72	3.51	4.08

1/ Revised.



U.S. DEPARTMENT OF AGRICULTURE JULY 1, 1940 NEG. 43917 BUREAU OF AGRICULTURAL ECONOMICS

Hourly earnings of factory workers by months, United States
January 1939 - July 1944

Month	Actual earnings in cents					
	1939	1940	1941	1942	1943	1944
January	63.2	65.5	68.3	80.1	91.9	100.2
February	63.1	65.4	68.5	80.3	92.4	100.3
March	63.2	65.7	68.9	81.1	93.4	100.6
April	63.0	65.6	70.2	82.2	94.4	101.3
May	63.2	66.0	72.1	83.5	95.3	101.7
June	63.1	66.2	73.2	84.5	95.9	101.8
July	62.6	65.8	73.5	85.6	96.3	101.9
August	62.4	66.0	73.6	87.0	96.5	
September	62.8	66.3	74.8	89.2	99.3	
October	63.5	66.5	76.1	89.3	98.8	
November	64.2	67.1	77.3	90.5	99.6	
December	65.2	67.6	78.3	90.7	99.5	
Average	63.3	66.1	72.9	85.3	96.1	

Month	Index numbers (1935-39 = 100)					
	1939	1940	1941	1942	1943	1944
January	104.3	108.1	112.7	132.2	151.7	165.4
February	104.2	108.0	113.1	132.6	152.5	165.6
March	104.3	108.5	113.7	133.9	154.2	166.1
April	104.0	108.3	115.9	135.7	155.8	167.2
May	104.3	108.9	119.0	137.8	157.5	167.9
June	104.2	109.3	120.8	139.5	158.3	168.0
July	103.3	108.6	121.3	141.3	159.0	168.2
August	103.0	108.9	121.5	143.6	159.3	
September	103.7	109.4	123.5	147.2	164.1	
October	104.8	109.8	125.6	147.4	163.3	
November	106.0	110.8	127.6	149.4	164.4	
December	107.6	111.6	129.2	149.7	164.2	
Average	104.5	109.1	120.3	140.8	158.7	

Source: Bureau of Labor Statistics, Department of Labor

Farm Labor Supply and Demand: Index numbers, by geographic divisions
July 1, 1941 - October 1, 1944

Geographic division	Based period 1935-39 1/	Index of supply													
		1941		1942				1943				1944			
		July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.
New England	100	60	57	60	56	52	49	49	48	50	44	45	46	47	48
Middle Atlantic	100	60	61	65	60	57	51	52	53	55	54	58	53	54	56
East North Central	100	66	66	69	66	64	52	57	57	55	54	60	54	53	54
West North Central	100	74	71	70	66	61	48	53	54	55	52	57	49	52	51
South Atlantic	100	75	71	71	70	67	60	61	60	60	58	59	57	59	57
East South Central	100	82	74	76	71	71	63	66	63	64	61	62	60	59	58
West South Central	100	76	70	71	69	65	56	55	57	57	53	56	51	52	55
Mountain	100	72	69	69	64	56	47	50	53	53	53	59	50	52	57
Pacific	100	73	69	66	66	54	47	52	52	55	62	61	58	59	64
United States		73	70	70	67	62	54	56	56	57	56	58	54	55	56

Geographic division	Based period 1935-39 1/	Index of Demand													
		1941		1942				1943				1944			
		July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.	Jan.	April	July	Oct.
New England	100	113	114	109	117	119	116	116	123	120	124	119	121	115	115
Middle Atlantic	100	111	114	108	117	116	120	118	124	122	122	119	126	123	120
East North Central	100	115	117	112	118	119	124	122	127	123	123	119	125	124	121
West North Central	100	127	127	125	130	131	139	135	138	139	137	132	139	136	134
South Atlantic	100	108	108	110	116	114	118	117	120	117	117	121	119	115	116
East South Central	100	107	113	116	120	119	123	122	125	122	125	124	128	121	125
West South Central	100	121	124	120	123	128	136	128	131	132	129	125	132	133	131
Mountain	100	124	128	119	125	131	131	126	135	130	132	126	133	133	133
Pacific	100	113	115	113	114	121	122	122	122	121	122	122	123	123	122
United States		115	117	114	119	121	125	122	126	125	125	123	127	125	124

1/ Base average of reported data for 20 quarters, January 1935 - October 1939.

Number of Agricultural Workers Transported by the Office of Labor, W.F.A., that were Employed on September 30, 1944 1/

State	Mexicans	Jamaicans	Bahamians	Newfoundlanders	Barbadians
Maine		493		83	
N.H.		182		76	
Vt.				94	
Mass.		255		72	
R.I.				8	
Conn.		2,052		90	
N.Y.		3,102	519	362	
N.J.		1,737	56	71	
Pa.		685		117	
Ohio	186	1,925			127
Ind.	108	483			
Ill.	106	696			
Mich.	2,175	1,299			
Wis.	457	846			340
Minn.	877	339			
Iowa	57	60			
N.Dak.	2,325				95
S.Dak.	290				
Nebr.	516				
Kans.	230				
Del.		303	352	13	
Md.		560	1,238		
Va.		118	1,204		
W.Va.					333
N.C.			251		
Fla.		1,452	1,009		
Tenn.			269		
Mont.	2/ 3,324				
Idaho	2/ 3,557				
Wyo.	2/ 608				
Colo.	2/ 2,217				
Ariz.	928				
Utah	2/ 620				
Nev.	499				
Wash.	2/ 3,484				
Oreg.	2/ 4,651				
Calif.	32,680				
TOTAL	2/59,895	16,587	4,898	986	895

1/ Data provided by Requirements and Certification Division, Program Branch, Office of Labor, W.F.A.
2/ Estimated.

In This Issue

	Page
Text	1 - 3
Farm Wage Rate Indexes and Related Data	4
Farm Wage Rates by geographic divisions.	5
Farm Employment by geographic divisions.	6
Farm Wage Rates by States	7
Farm Wage Rates per month with Board, chart	8
Hourly Earnings of Factory Workers, 1939-44	9
Farm Labor Supply and Demand by geographic divisions	10
Foreign Workers Employed in United States Agriculture	11

ADVANCE RELEASE --- ADVANCE RELEASE

Schroeder -- WMC 2036 PM-4595

WAR MANPOWER COMMISSION

ADVANCE RELEASE:
For Friday Morning Papers
June 2, 1944

Cleared and Issued
Through Facilities of the
Office of War Information

Although the demands of the armed services for lumber are steadily rising with the increased pace of the war and approach of invasion, employment in the industry is showing an alarming downward trend, Paul V. McNutt, Chairman of the War Manpower Commission, said today.

"Armies and Navies," said Mr. McNutt, "must have lumber to fight a war. Experience has shown that it is the most suitable material for boxing food, clothing and other supplies for shipment to our fighting forces abroad; for boxing ammunition and equipment repair parts; for crating heavy implements of war and for packing heavy cargo, such as tanks, trucks, etc.

"Every time a member of the armed forces leaves for overseas it takes 300 feet of lumber to box and crate his initial supplies. It takes 50 feet a month from then on to keep him supplied. That is for just one soldier's personal equipment and does not include all the other armaments of war. Every 10,000-ton cargo ship of the Liberty type leaving a United States port requires 10 carloads (approximately 250,000 feet) of lumber merely to hold its supplies in place in the hold.

"As our armies advance more lumber is needed for reconstruction work. In most instances territorial gains are achieved only after terrific bombardment of the objective, causing vast destruction. Reconstruction is necessary. For example, after the fall of Naples 2000 carloads (approximately 50,000,000 feet) of lumber were used in rebuilding the dock facilities to enable Allied ships to use them.

"The ship yard lumber needs here are equally urgent. For example, a steel-hulled battleship needs 300,000 feet of decking, all of lumber. The flattop Lexington took 250,000 feet. Similar footage is required in the building of the 110-foot subchaser."

"In addition, lumber is needed for the interior of ships, and large amounts are required for the so-called cradle in which ships are constructed. Floating dry docks, used extensively in this war, require nearly 1,800,000 feet of lumber each.

"The LCVP, a small landing craft, is 90 percent lumber and there are more of these particular crafts used than all of the rest of the landing crafts put together. The famous PT boats, also, are built largely of lumber. This is by no means a complete list of the Navy's need but it gives a partial picture."

(over)

X-30126

Under pressure the output of lumber and timber basic products has crept steadily up, said Mr. McNutt. For the first quarter of 1944 the total was approximately 7.7 billion board feet, a gain of almost 3 percent over the same period in 1943.

"However," continued the WMC Chairman, "average employment for this period in 1944 dropped 53,000 below that for 1943. It is still going down."

Mr. McNutt quoted WMC statistical reports from some employers in the logging, lumbering, timber basic products, and wooden container industry, which showed March 1 employment as 323,674. Labor needs estimated by these employers were 370,659, indicating a shortage of 46,985 workers. July 1 labor needs of employers submitting reports are 391,957.

According to Mr. McNutt approximately half of the March 1 shortage was concentrated in the south. "If labor requirements as estimated by employers are to be met," he said, "some 68,300 workers must be added to the labor force of the industry by July 1. This represents an increase of over 20 percent over March 1 employment. Logging camps will have to increase their employment by 29,200 workers. Sawmills will have to increase employment by 14,300 workers."

To add to the industry's labor difficulties Mr. McNutt said that the shortages would undoubtedly be intensified in many lumber and pulpwood producing areas through the current movement of seasonal agricultural workers back to the farms. During the winter and early spring these farm workers contributed substantially to the alleviation of labor shortages in production of logs and lumber.

# # #

END OF ADVANCE RELEASE: For FRIDAY MORNING Papers, June 2, 1944.

FARM LABOR NEEDS IN 1944



U.S. CROP CORPS WORKERS NEEDED TO SUPPLEMENT REGULAR FARM LABOR FORCE IN PRODUCING FOOD FOR FREEDOM

WAR FOOD ADMINISTRATION — JANUARY 1944

U. S. CROP CORPS NEEDS 4,000,000 WORKERS

Four million workers will be needed in 1944 to supplement the efforts of the regular farm labor force in the production of another record crop to meet the increasing demands of war. The regular farm labor force, numbering around 8,000,000 persons, consists of all farmers and members of their families regularly employed in farm work, plus their year-round hired workers.

The 4,000,000 goal for 1944 is an increase of 500,000 over the estimated 3,500,000 workers who supplemented the regular force in 1943. Indications are that most of this increase will have to come from the ranks of women and youth, since the number of available men is not expected to be larger in 1944.

Of the estimated 4,000,000 extra workers needed this year, it is expected that about 1,200,000 will be boys and girls under 18 years of age and about 800,000 will be women. Of the 3,500,000 different workers who supplemented the regular force in 1943, about 900,000 were youth and about 600,000 were women. The youth who help with farm work become Victory Farm Volunteers, while the women workers make up the Women's Land Army.

The 48 State extension services have set up 6,150 placement offices scattered throughout the 3,000 counties. These offices are designed to aid the farmer in obtaining the necessary labor he needs in connection with planting, cultivating, and harvesting his crops. Although workers needed to supplement the regular farm labor force will be encouraged to make their own arrangements with farmers, it is expected that the extension placement offices will be called upon to recruit and place at least 2,000,000 or more of the estimated 4,000,000 workers needed.

Results of the 1943 Farm Labor program were generally satisfactory. A survey of State extension directors, made by the Federal Extension Service, shows that no appreciable loss of food occurred through lack of harvest labor. There were some crop losses, of course, but these are to be expected in any year, because of weather and other factors. It is generally believed, however, that the percentage of crop losses in 1943 was less than average.

U. S. CROP CORPS STATISTICS

- - -

1944 Goals

	Estimated number of workers needed	Estimated number to be placed through Extension Farm Labor offices
Estimated total number of different workers needed in 1944 to supplement regular farm labor force 1/	4,000,000	2,000,000
Estimated number of youth (Victory Farm Volunteers) to be included in total	1,200,000	700,000
Estimated number of women (Women's Land Army) to be included in total	800,000	400,000

. . . . . .

1943 Results

	Estimated number of workers	Estimated number placed through Extension Farm Labor offices
Estimated total number of different workers used in 1943 to supplement regular farm labor force 1/	3,500,000	1,500,000
Estimated number of youth (Victory Farm Volunteers) included in total	900,000	400,000
Estimated number of women (Women's Land Army) included in total	600,000	250,000

1/ Regular farm labor force is used here to mean all farmers and members of their families regularly employed in farm work, plus year-round hired workers.

MAPS INDICATE NEED FOR CROP CORPS WORKERS

In considering farm labor needs for 1944, it is necessary to know when and where extra workers will be needed to supplement the regular farm labor force, consisting of farm family members regularly employed in farm work plus year-round hired workers. The 12 maps presented on the succeeding pages -- one for each month -- are intended to indicate the time and areas of such need.

No effort has been made to show total labor needs. On the contrary, the areas indicated on these maps are those where extra workers will probably be needed to supplement the efforts of the regular farm labor force. In other words, some areas may have a heavy labor demand but may also have a supply of labor sufficient to meet this demand. These areas are not marked for special attention on the map. However, other areas that have a much smaller labor demand, expressed in terms of man-hours, but only a limited supply of on-farm labor, are indicated as serious or critical, depending upon the extent to which the supply fails to meet the demand.

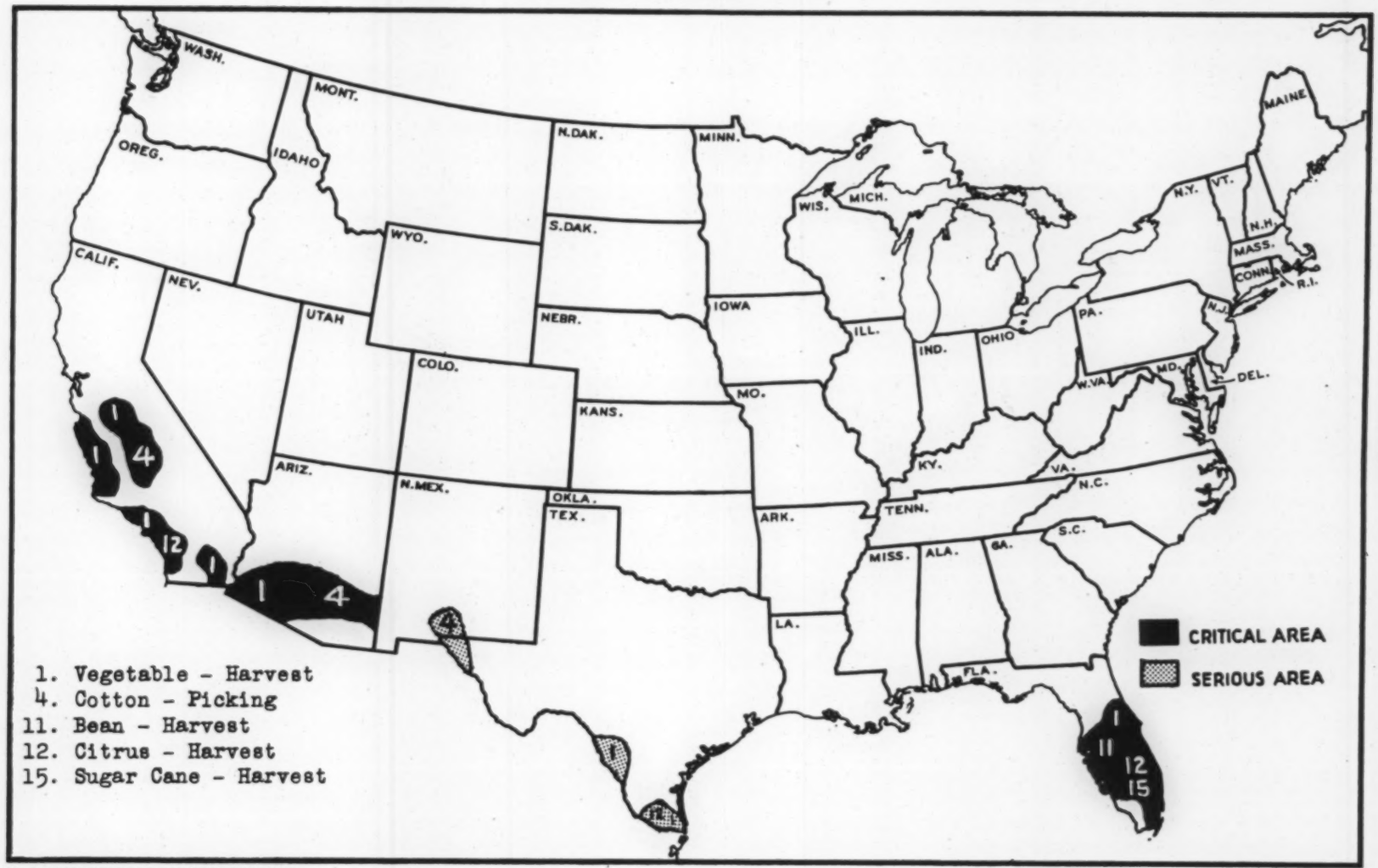
The areas in black are expected to be those in which the need for extra workers is most critical; the shaded areas represent those expected to have a serious labor problem. Areas in which the farm labor need is only moderate are included in the white portion of the maps. These estimates of farm labor needs are based on normal weather conditions. An unusual season might alter not only the time but also the extent of the need.

On a national map, it is not practical to show localized farm labor problems. Therefore, only those problems involving areas that extend into several counties are included in these maps. Information on local labor needs may be obtained from State extension offices or from county agricultural agents.

In addition to indicating the areas and months of farm labor needs, the maps also include the major crops and operations involved in the labor problem. A brief description of these operations is contained in pages 17 to 19.

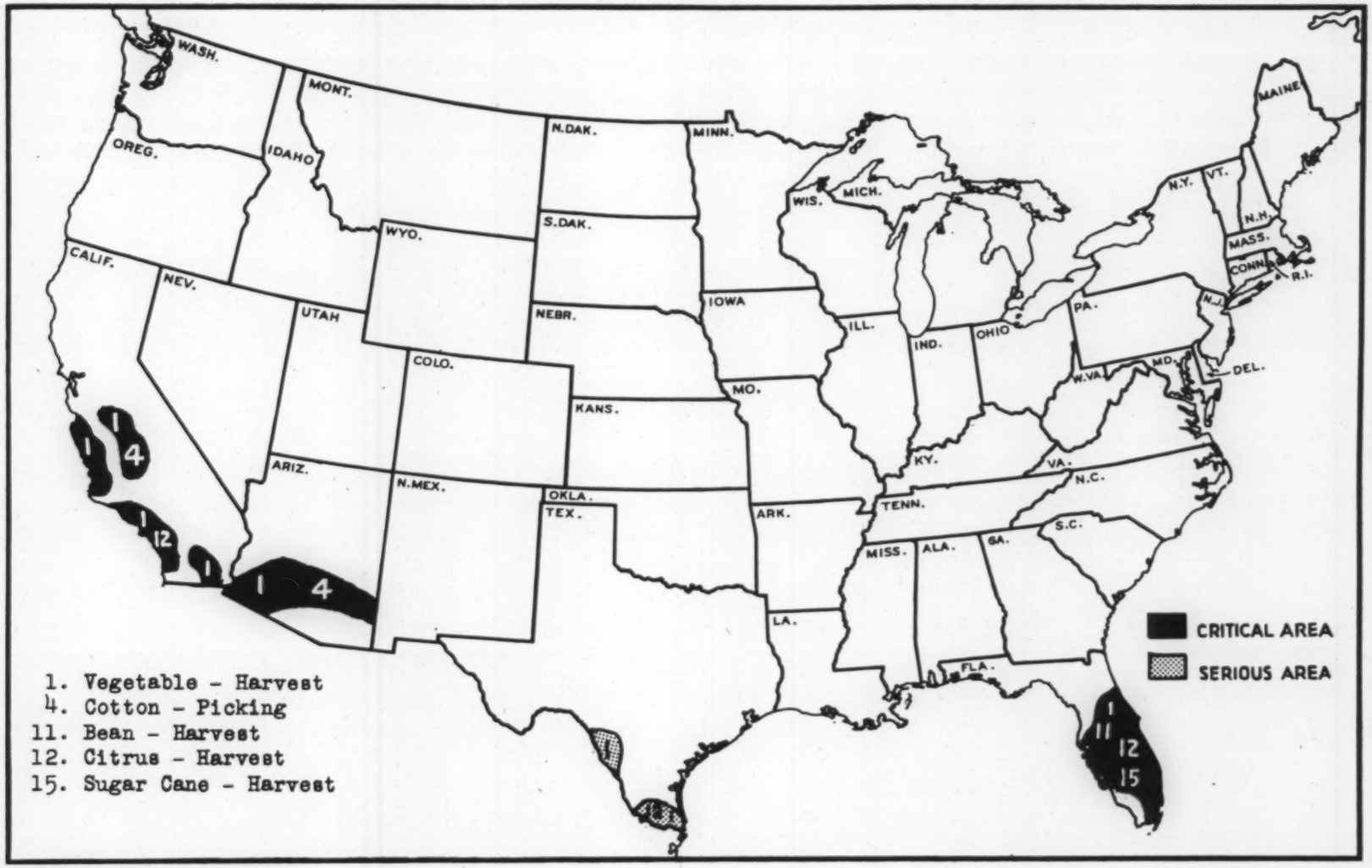
AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS

January 1944



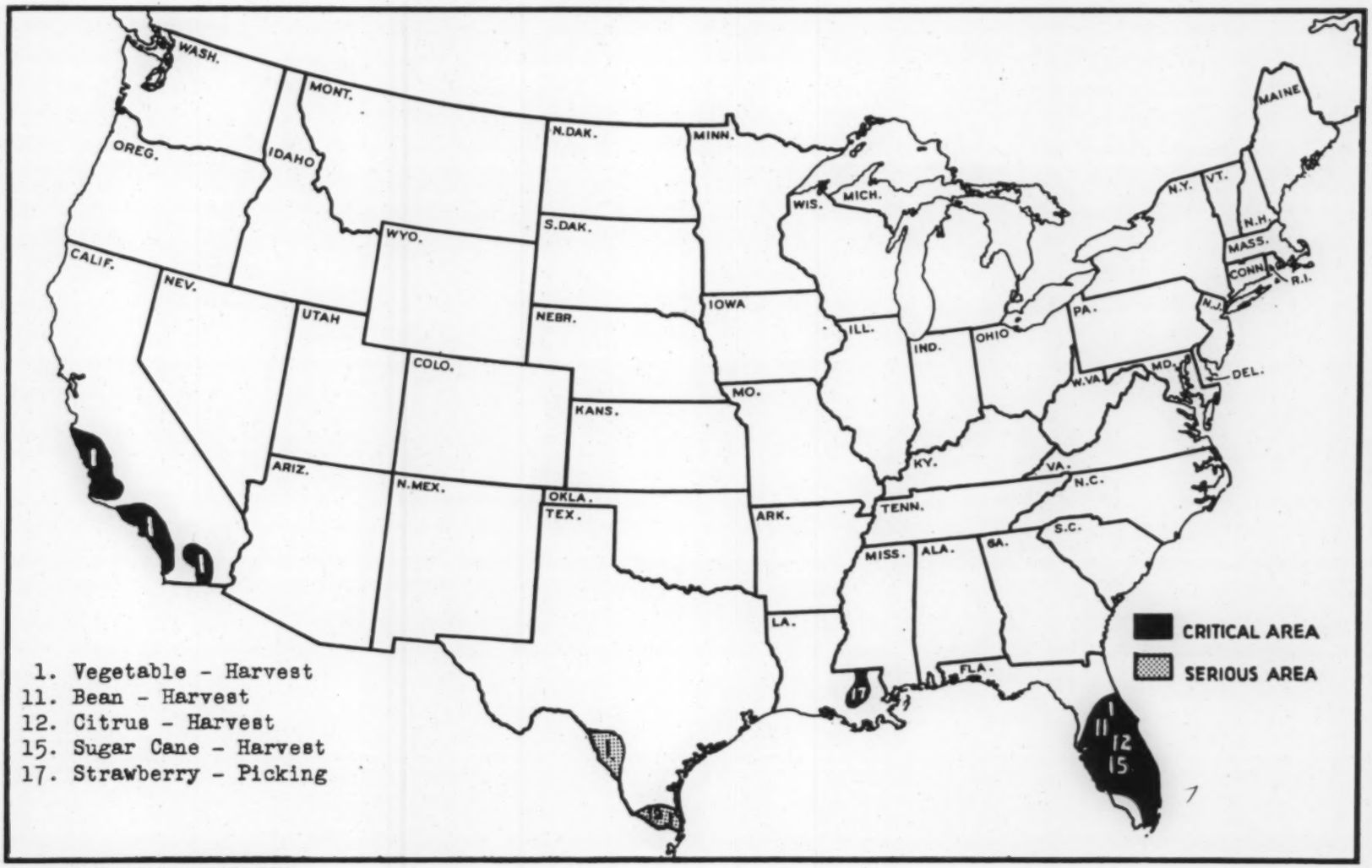
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
February 1944



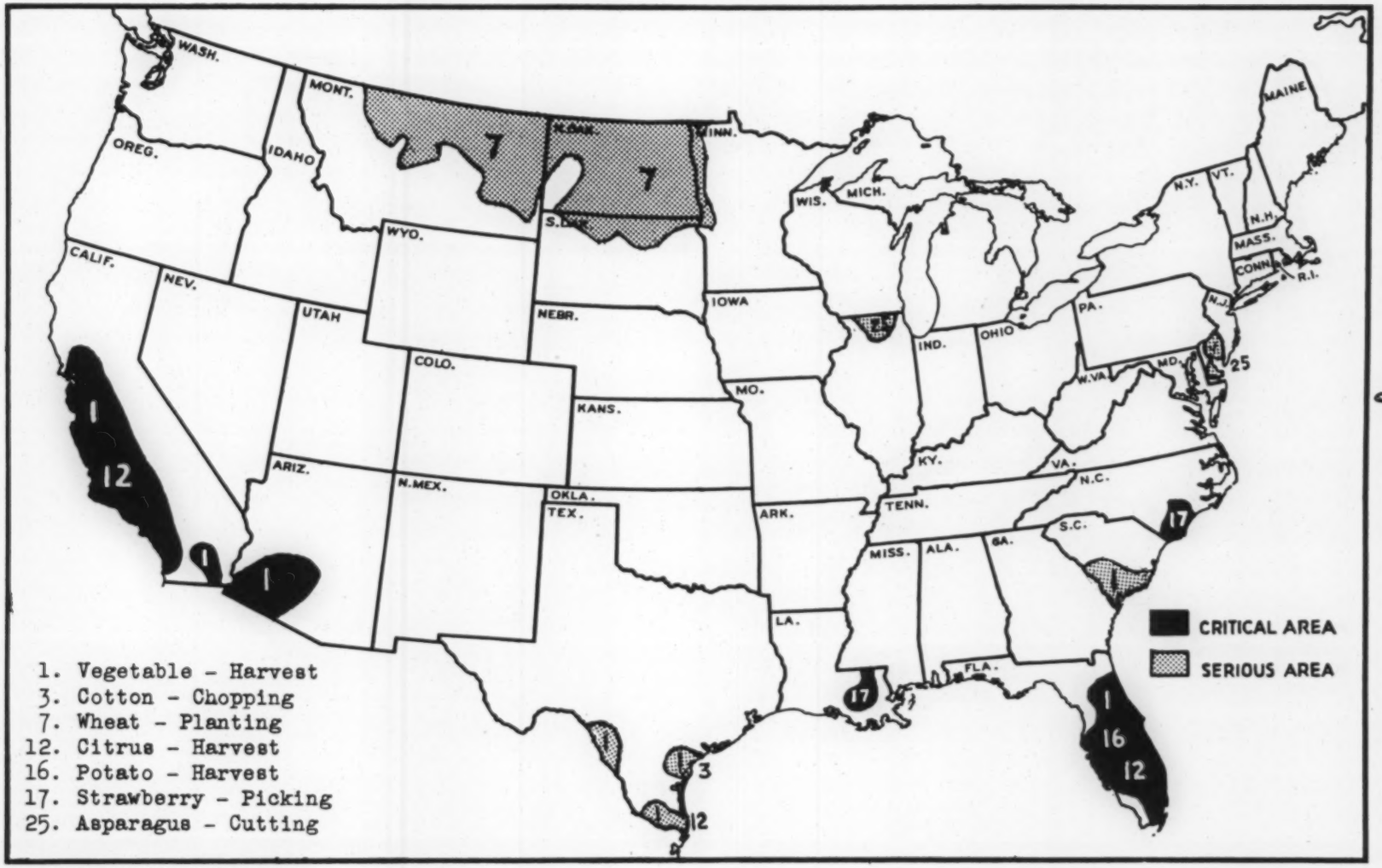
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
March 1944



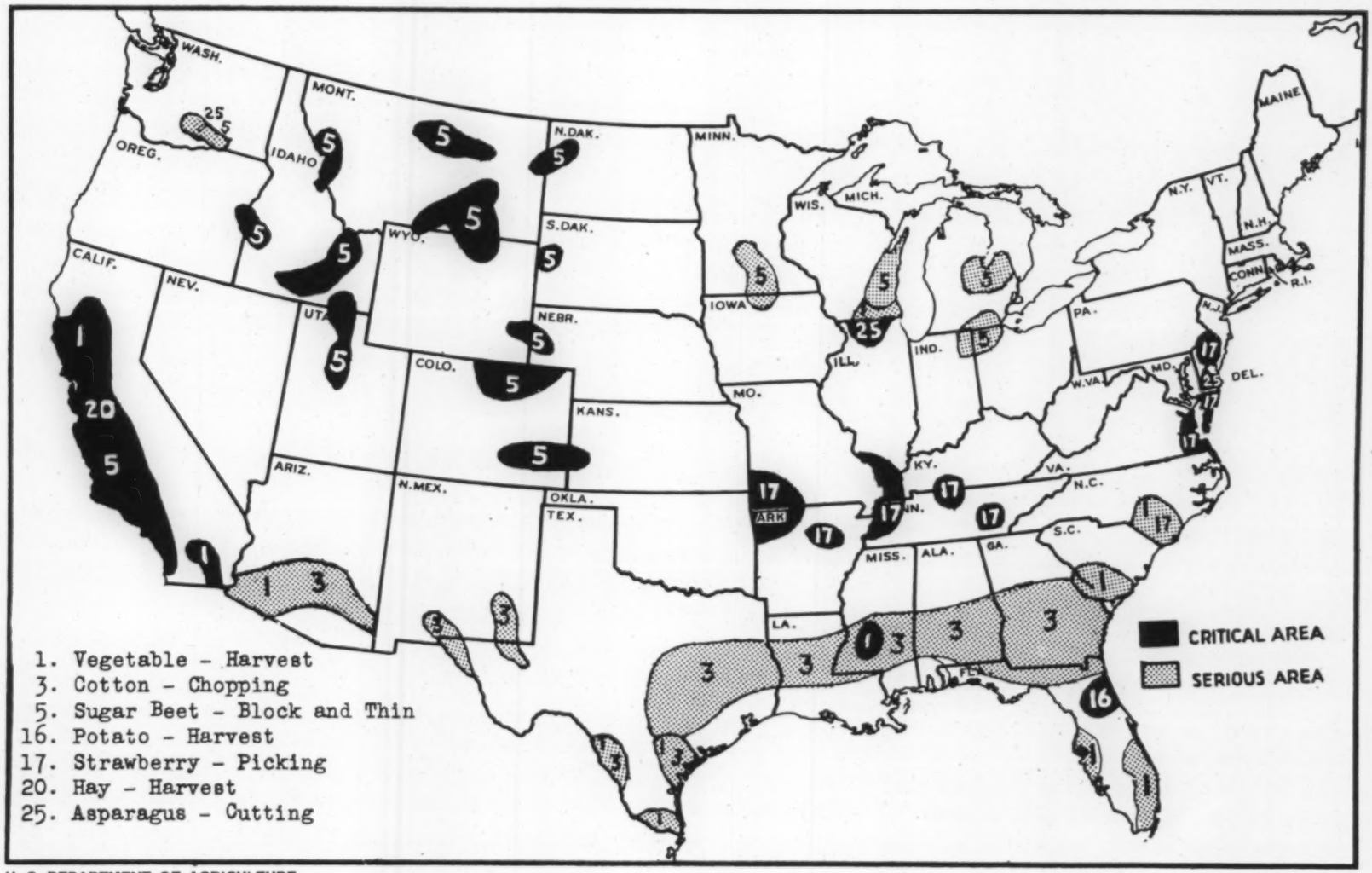
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
April 1944



U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
May 1944

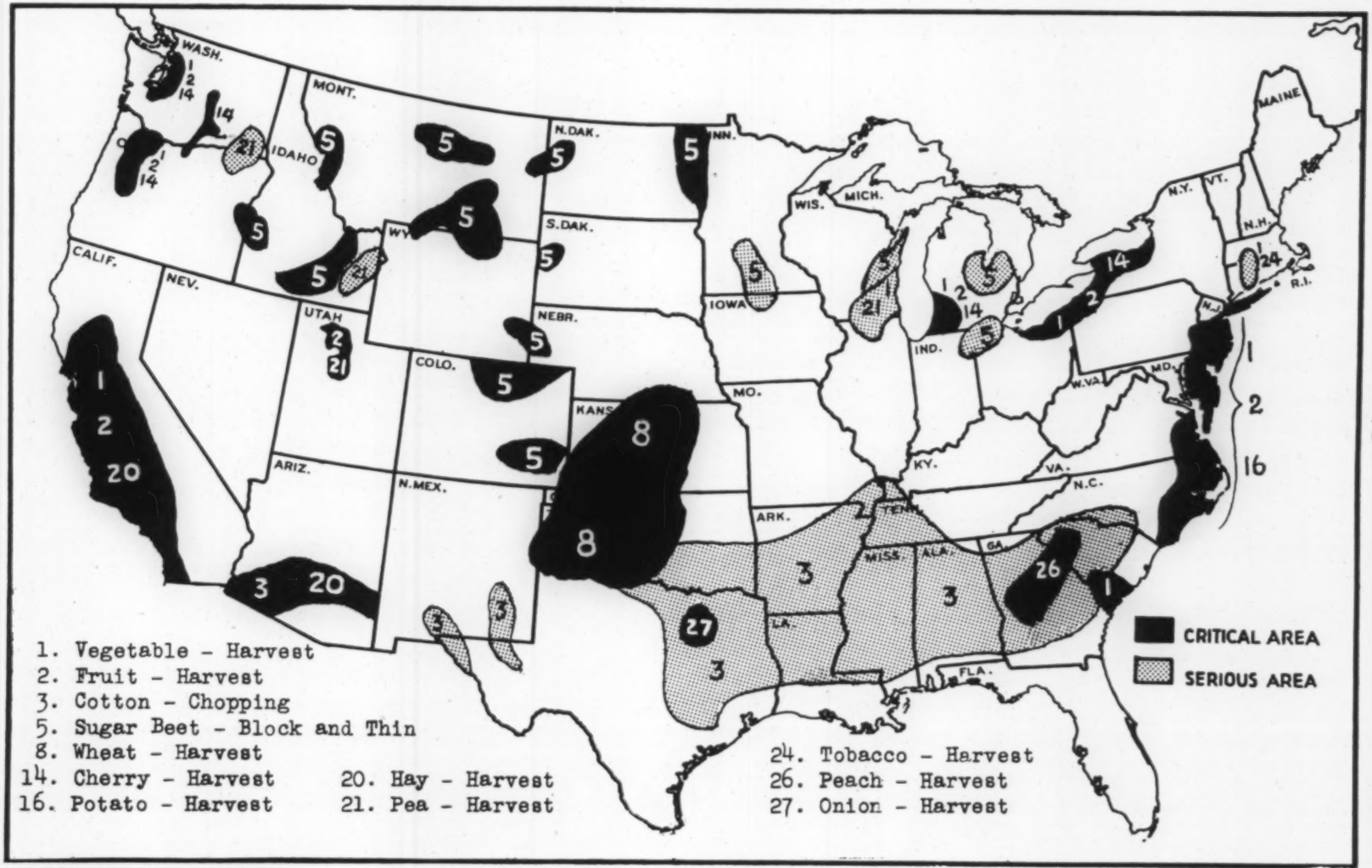


U. S. DEPARTMENT OF AGRICULTURE

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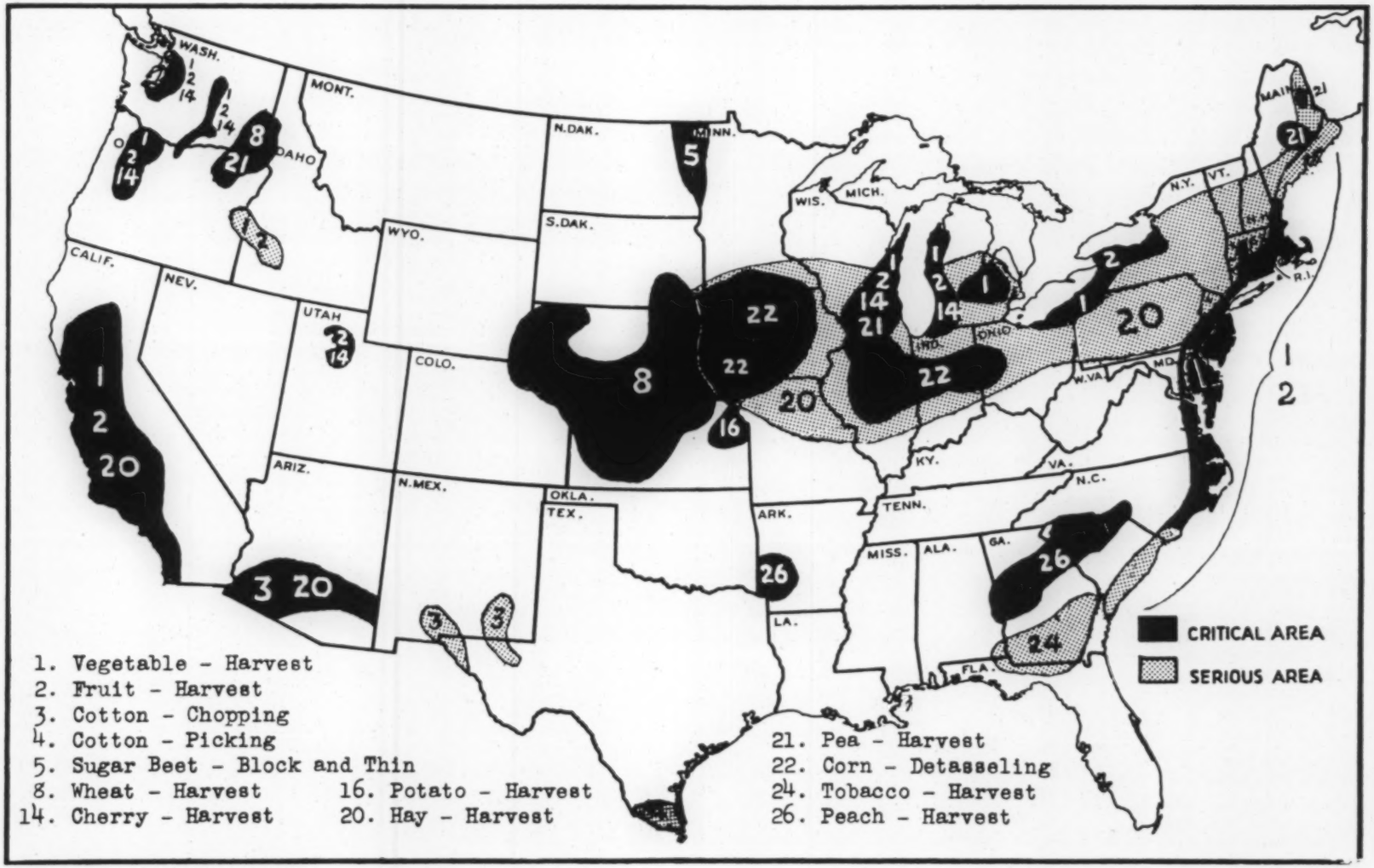
AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS

June 1944



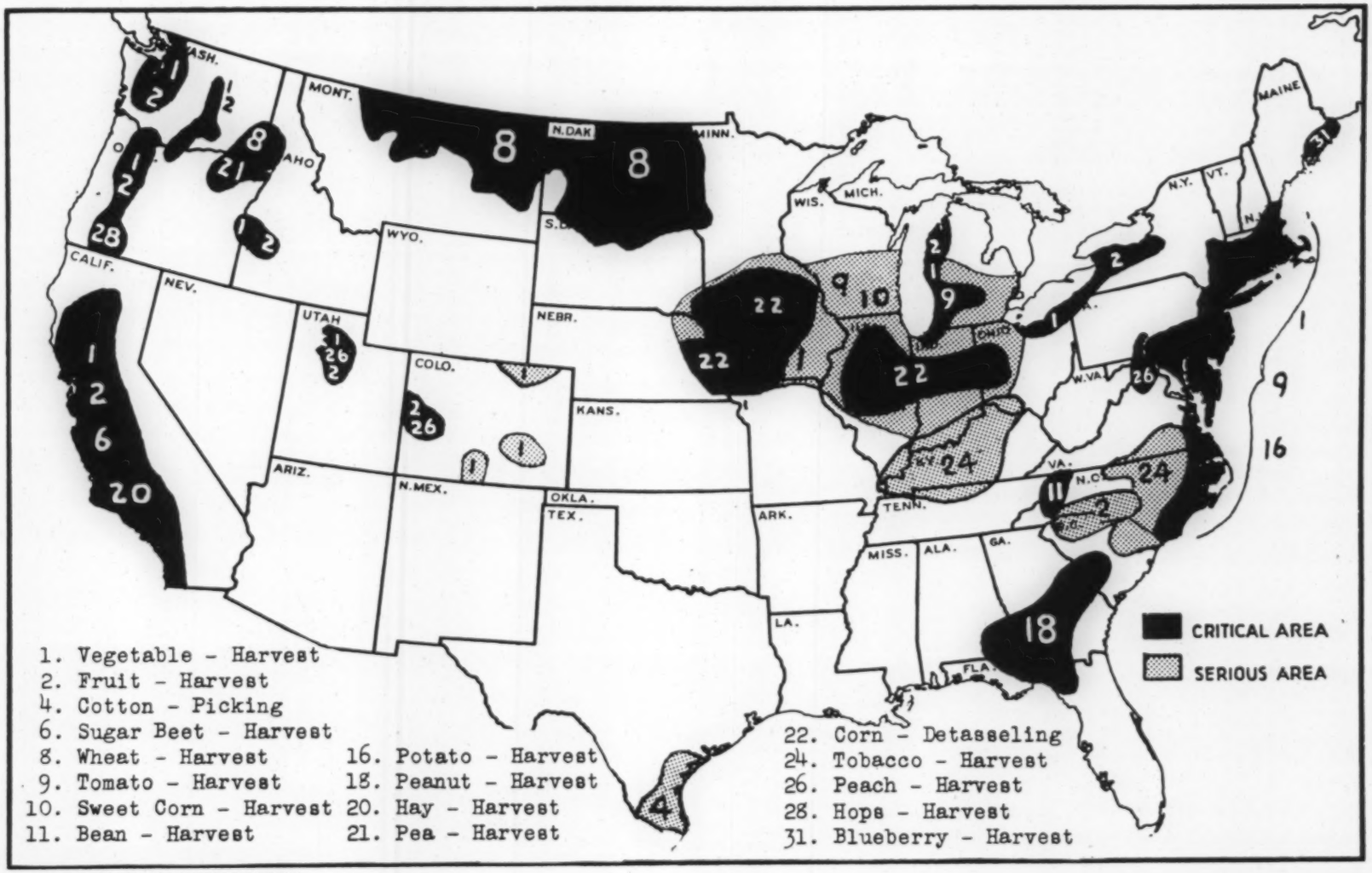
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
July 1944



U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
August 1944

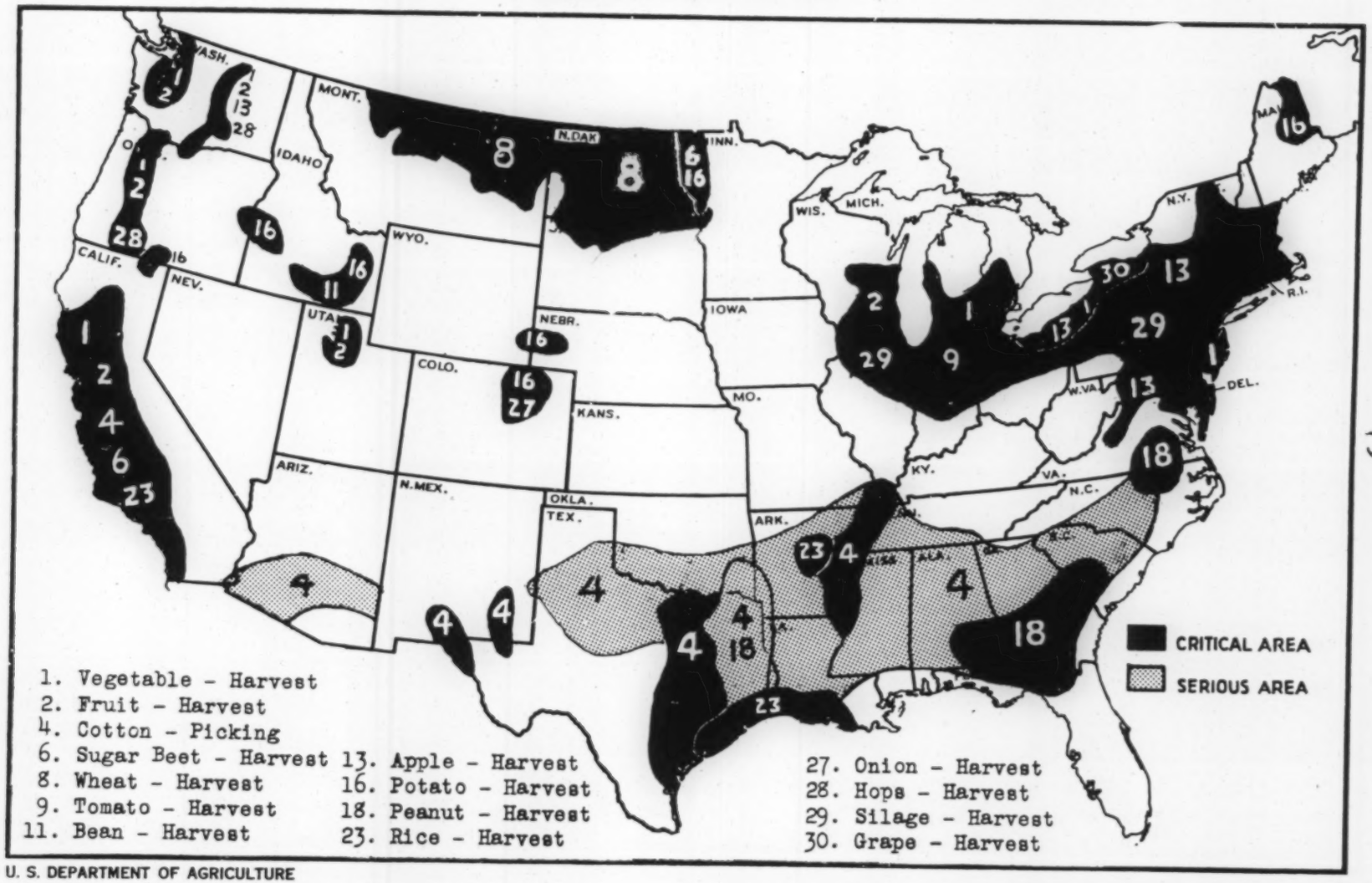


U. S. DEPARTMENT OF AGRICULTURE

12

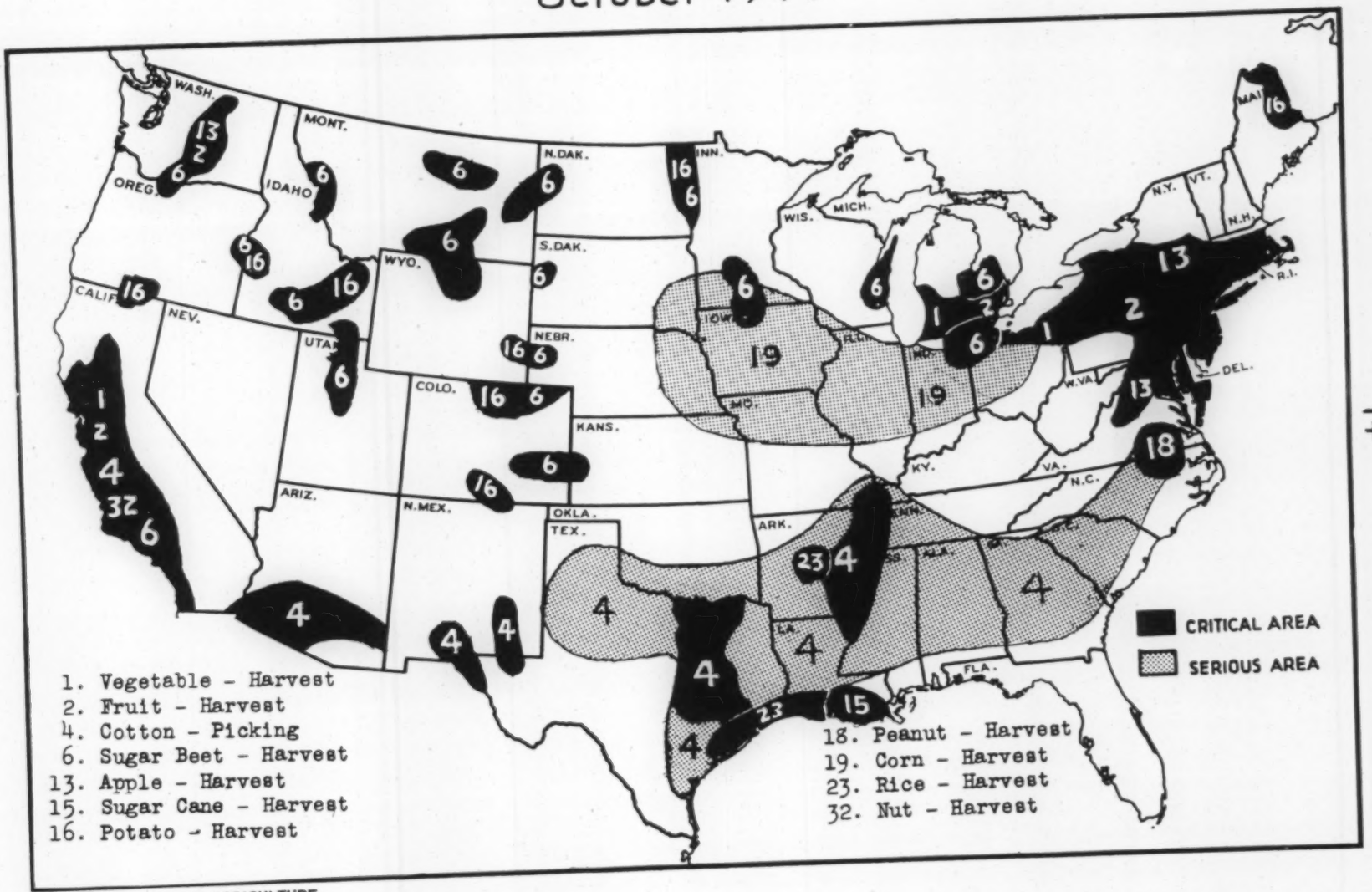
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September 1944



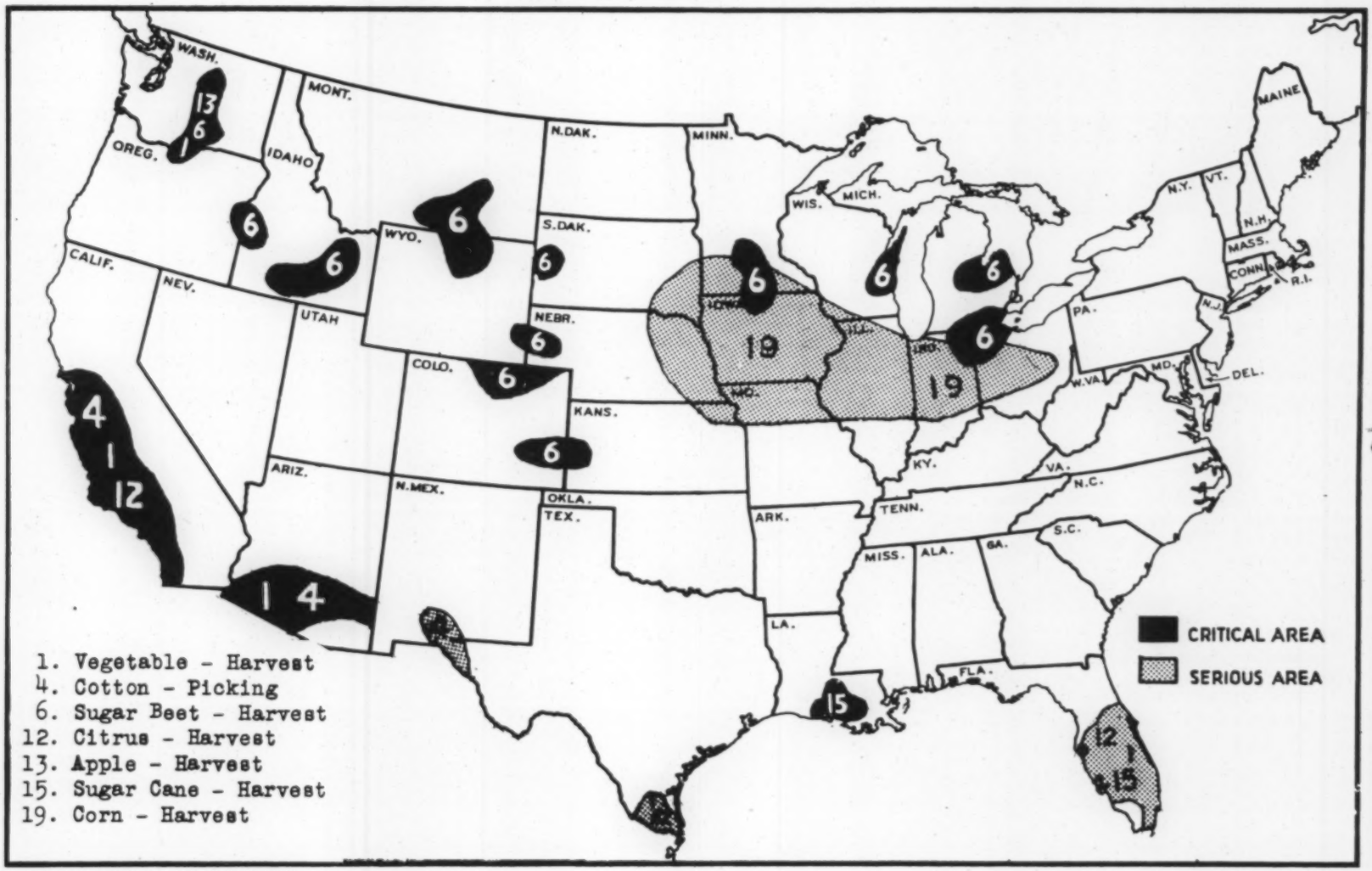
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
October 1944



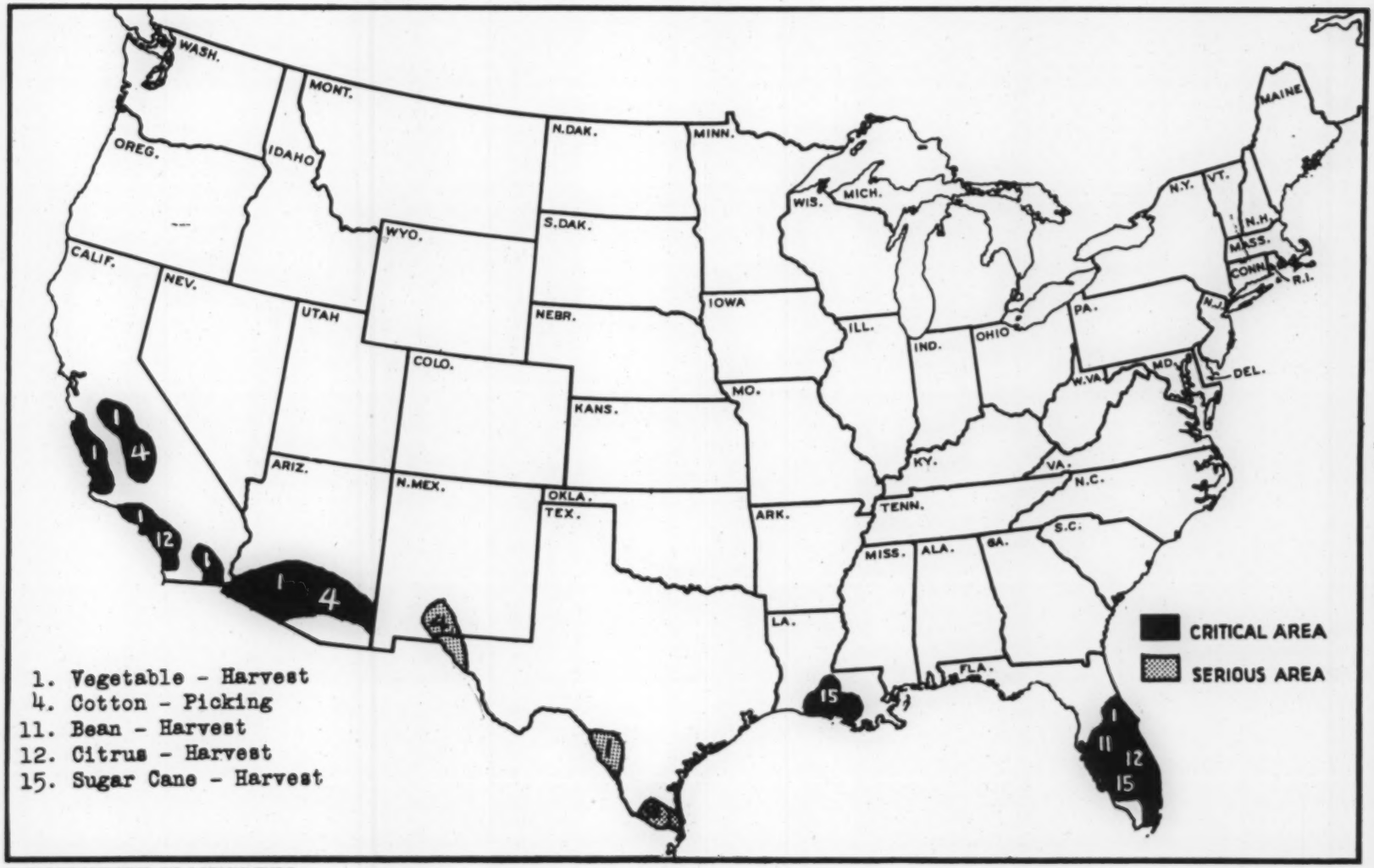
U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
November 1944



U. S. DEPARTMENT OF AGRICULTURE

AREAS REQUIRING MOBILIZATION OF SEASONAL FARM WORKERS
December 1944



1. Vegetable - Harvest
4. Cotton - Picking
11. Bean - Harvest
12. Citrus - Harvest
15. Sugar Cane - Harvest

U. S. DEPARTMENT OF AGRICULTURE

Vegetables are among the principal foods needed for our armed forces and our allies, as well as for our civilian population. Their production is one of the vital wartime jobs being done by American farmers at this time. Harvesting of vegetables presents one of the main farm labor problems, since such a large amount of hand labor is required. However, in the case of tomatoes (9),[2/] beans (11), asparagus (25), onions (27), and other miscellaneous vegetables (1), much of the harvest work can be done by women and youngsters. Each year these two groups furnish an increasingly larger percentage of the labor for vegetable harvest, as more and more men are drawn into the armed services or war industries. Most of these harvesting operations are relatively simple.

The same is true of most fruits (2), including apples (13), cherries (14), strawberries (17), peaches (26), grapes (30), blueberries (31), and nuts (32). Generally speaking, most of the fruit harvest operations can be done by women and youth. Some farmers have found that women can do an even better job of harvesting, since they are more likely to handle the fruit carefully and thus prevent bruising. Most of these operations are simple ones requiring the picking of fruit from trees or vines. Picking citrus fruit (12) is heavy work usually done by men.

Some women and youth are used during the spring months in cotton chopping (3), which is done by hand with a hoe. It involves a thinning out of the young plants so that those left will have more room to grow, as well as removing weeds and grass. Many more women and youth are used in cotton picking (4), which requires large numbers of workers during the fall months. Picking of cotton from the bolls requires no experience, but maximum speed can be attained only after long practice.

HEAVIER WORK FOR MEN

On the other hand, work with sugar beets and sugarcane is man's work. Sugar-beet blocking and thinning (5) comes during the summer months and consists of thinning-out the plants so that those left in the ground may have more room to grow. The sugar-beet harvest (6) occurs during the fall months, frequently under unfavorable weather conditions. The harvesting of beets requires cutting off the tops and roots. In some areas, a good many women and youth have done some of the heavy sugar-beet work, but this is usually done by men. In harvesting cane, the stalks not only must be cut off just above the ground, but the tops of the stalks also must be cut and the leaves stripped off. Harvesting of both beets and cane requires a large amount of hand labor, with many weary hours for the worker.

Wheat planting (7) is done mechanically in the major wheat areas, but requires some men in addition to the regular farm labor force. Wheat harvest (8) is also a mechanical operation, but requires much additional labor to supplement the regular farm labor force. Adult male

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2/ Numbers in parentheses indicate crop regions shown on maps.

workers are required for most of the wheat harvest operations, but some women are now being used for driving tractors, shocking bundles, and similar work. The wheat harvest created one of the main farm labor problems in 1943, and a large number of out-of-State workers had to be brought in to help with the harvest in North and South Dakota.

Rice harvest (23) is very similar to the wheat harvest, being a mechanical operation but requiring much extra labor. Men are required for most of the rice harvest work.

In many areas, especially the Midwest, much of the corn harvesting (19) and silage making (29) is a mechanical operation. However, in other areas, corn and silage are harvested largely by hand. This is hard work and can be done more efficiently by men. Sweet-corn harvesting (10) also is rather hard work.

However, corn detasseling (22) is a job ideally suited to women and youth. It is hand work, and consists of going down certain rows in the field and removing the tassels from every stalk. The purpose is to prevent self-pollination in order to produce hybrid seed corn, which normally results in a much larger yield when planted the following year. Corn detasseling is a comparatively simple job which inexperienced workers can do satisfactorily after brief instruction.

MUCH HAND LABOR

The potato harvest (16), which occurs during the fall in the leading potato areas, requires a large amount of hand labor. Potatoes are removed from the ground by mechanical means, but completion of the harvest process requires picking up the potatoes from the ground by hand and placing them in baskets and then in barrels or sacks. Women and youth can be adept at doing this part of the harvest operation, and these two groups furnish many workers for this highly seasonal job. Handling of the barrels or sacks, of course, is done by men. In Maine, Idaho, and other leading potato States, the harvest occurs so late in the season that heavy loss from freezing is a danger unless adequate labor is available when the potatoes are ready for harvest.

Production of peanuts (18) is concentrated in three separate areas of the South, the largest acreage being in the Southeast. Peanuts are dug from the ground by mechanical means, but much hand labor is necessary in shaking the dirt from the peanuts and in placing the vines in stacks. Peanuts are usually left in the stacks about 6 weeks before the nuts are removed from the vines by a mechanical peanut picker. The heaviest labor needs, however, are in the first operation of shaking and stacking the peanuts, for which women and youth can be used.

Harvesting of hay (20) and peas (21) is heavy work that requires additional labor. Some women and youth can be used in certain phases of the work, depending upon the method used.

Tobacco harvesting (24) is handled in some areas by the regular farm labor force, which includes women and youngsters. In other areas, extra workers are required, and some non-farm women and youth are employed in the tobacco harvest.

Another farm labor job done largely by women and youth is picking hops (25). This is a simple operation and is comparatively light work. Most of the hops are grown in Oregon and California, and are harvested during the late summer and early fall.

# # #

ACKNOWLEDGEMENTS

The material in this booklet was prepared cooperatively by the Extension Service, the Office of Labor, and the Bureau of Agricultural Economics. All farm labor needs are estimates, based on past experience plus a knowledge of the job to be done in 1944.

Women in Farm Equipment (file in Miscell)

[illegible], Inc., Vulcan Plow Division . 401 N.W. 1st St., Evansville, Ind. 1944

Product: Farm Machinery

Women were not employed in production in this plant before the war.

Union: Int. Automobile Workers of America, AFL

Equal Pay: Union demanded that women be paid same rates as men on all jobs. Women are employed on men's jobs as no women were in the shop before.

	Men	Women
Total Employees:	165	15

Dec. 9, 1943.

International Harvester Co., East Moline, Ill.

Product: Agricultural implements and war products for army.

Number of Employees: Total: 2500 approx. Women: 300-400 (approx.)

Union: United Farm Equipment and Metal Workers of America -- CIO

Contract does not provide for equal pay nor for the same starting rate for inexperienced women as for inexperienced men, nor does it provide same minimum rate for both at end of probation period. The contract does not provide the same automatic progression policy for men and women. It is the prevailing practice to keep women at lower paid jobs longer than men.

December 1943.

John Deere Plow Co., Moline, Ill.

Product: Plows, agricultural implements; small percentage of war work.

Number of Employees: Total: 1121 Women 80

Beginning Rates: Men -- 70¢ per hr.
60¢ per hr.
It is the prevailing practice to keep women at lower paid jobs longer than men.

What is highest paid job and rate at which women are employed? --
Hourly Rate -- Tool grinding -- 80¢ per hr.
Piece Work -- Milling Machine Operator -- 70¢ plus piece work earnings.

Are any higher paid jobs suitable for women? Yes.

International Harvester Co., East Moline, Ill.
Product: Agricultural implements (also army ordnance contract).

Number of employees: Total: 190 Women: 110

Union: United Farm Equipment Workers of America -- CIO.

Women are not hired in production. Only in clerical.
What is highest paid job and rate at which women are employed? Clerical -- $31.00.

Jan. 1943

Firm -- Oliver Farm Equipment Co. Address -- 1217 S. Walnut St.
So. Bend, Indiana

Product
a. Prior to defense -- Agricultural implements

b. Defense product -- Agricultural implements -- forge and foundry work
20 mm armor-piercing shells.

Numbers employed:		Male	Female
Total --	1300	1155	145
Factory	1185	1125	60
Office	* 115	* 30	* 85

Anticipatory -- date of maximum force -- Peak has been reached. No marked expansion anticipated.

Substitution of women for men: In core-room women have been working for years. In inspection and machine shop they are new.

Wage Advancement Policy: Job evaluation system. No differential between men and women. Upgrading according to job classification.

Union: United Farm Equipment Workers -- CIO -- Maintenance of membership.

Ingersoll Steel & Disc Division of Borg Warner Corp., Chicago Ill. Jan. 22, 1944

Union -- UFEMWA (U F E M W A)

Product -- Cartridge cases, auto. trucks, aircraft, tanks, farm implements, furnace parts, etc.

Number of employees: Men -- 53 5 Women 265.

Women have been employed since April 1942.

On inspection jobs women receive less than the men do.

Jan. 1944.

Peoria-Cordage-Co., ~~xxxxxxxxxx~~ Peoria, Ill.

Union: United Farm Equipment Machine Works. -- CIO.

Product: Rope & Binder - Twine.

Total Employees: 120 -- Women: 60.

Beginning Rates: 65½ ¢ per -- men
60¢ -- women

Is it prevailing practice to keep women at lower paid jobs longer than men. No.
What is highest paid job and rate at which women are employed? Rope Machine -- 68 1/2¢ per hour.

Febr. 14, 1944.

Oliver Farm Equipment Co. 533 Chapin. South Bend, Indiana

Product: Treads for tanks and farm equipment.

Number. Men: 1000 Women: 400

Contract provides for equal pay; jobs and rates are not classified by male and female.

Union: United Farm Equipment Workers. CIO

1/25/44

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FARM WOMEN LOOK TO CUT IN CHORES

They Begin to Study Ways of Reducing Household Tasks by Industrial Ways

MORE TIME FOR LAND WORK

Agencies and Universities Aid in Pointing Out Methods Open for Adoption

Special to THE NEW YORK TIMES.

WASHINGTON, D. C., Jan. 24—Farm women of many States are beginning to study their household tasks with a view to applying factory speed-up methods, according to Miss Mary Rokahr, home management specialist of the Extension Service of the Department of Agriculture.

The object of this new wartime movement, she added, is to save time for the work of the Women's Land Army next Spring and Summer.

"Industrial engineers are analyzing and breaking down household jobs in the same way that factory jobs were broken down to speed up production," she said. "Farm women are cooperating by making time and motion studies of the work they do and keeping check lists on how their tasks may be simplified."

She told of an experiment in ironing a man's shirt made by a home management specialist in New York State. Ironing on a fifteen-inch board, the iron was picked up or replaced seventy-two times and twenty-two major moves of the shirt were made. By using a twenty-inch board the twenty-two turns were reduced to four and the iron was lifted or replaced but twenty-six times.



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"The ironing experiment showed that the average ironing board is too narrow and it may eventually result in introducing into the American household a wider ironing board," said Miss Rokahr.

How to Simplify Work

From the work simplification studies of Purdue University in Indiana the Department of Agriculture has simmered down to a list of twelve questions by which women may size up their housework. They are:

1. Can this operation be eliminated? 2. Can I substitute a better way? 3. Can I use my equipment to better advantage? 4. Is my equipment in good order? 5. Can the order of work be changed so as to allow more work with less physical effort? 6. Can I ease a job? Reduce the time needed to do it? 7. Am I over-exerting myself by stooping? Lifting the hard way? 8. Can excess travel be eliminated by planning the work, changing the places where things are kept, combining jobs? 9. When I do something repetitive can I sit comfortably, let gravity help, have both hands work instead of one holding, make the job safer, arrange my work so everything is within reach, use all the help I can get? 10. What is the best time to do a job? 11. Do I train helpers in the best way to do a job? 12. Do I train helpers in the best way?

Eliminate Nonessentials

Farm wives who are using the University of Iowa's bulletin "Regear Your Work Schedule to Wartime Demands" are told to eliminate nonessentials, spread out the jobs that cause work peaks, find the easiest and fastest ways of doing things, make the best use of help from the family and neighbors and paid helpers and use commercial products and services to release time.

The Michigan State College has issued a list of 150 housekeeping shortcuts, asking farm wives to check off the ones they follow.

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September 20, 1943

REPORT ON THE LOWELL COMPANY CRANBERRY BOG
At CARLISLE, MASSACHUSETTS

On September 17 I visited at the Lowell Company cranberry bog at Carlisle, Massachusetts. This is considered one of the best bogs in the state and, as Massachusetts grows most of the cranberries of the United States, probably one of the best bogs anywhere. It is about 40 acres and while it is owned and operated by the big cranberry company that also owns all the bogs on Cape Cod, it is under the immediate management of Mr. and Mrs. Aldreck Fecteau. They work together as a team and seem to have an equal share in the responsibility for taking care of the bogs; flooding them when the temperature gets too low; draining the water off them at the right time; having charge of all the pickers; hiring and firing them, also the supervisors or foremen among the pickers; trucking all the boxes to the screening and packing house, supervising the work there; trucking the boxes to the freight cars and loading them. Mr. Fecteau himself does the trucking. Mrs. Fecteau or Mr. Fecteau would take the various wet and dry thermometer readings several times a day which guide them in the control of the water on the bogs. For this work Mrs. Fecteau receives 40 cents an hour, which is less than most of the workers receive. In fact, the day we were there the workers were being paid 80 cents to 90 cents an hour because picking was too poor for them to make fair pay at piecework in that particular section. I asked Mrs. Fecteau how it happened that she got so much less and she said, "it does seem funny, doesn't it? But I should never ask for more pay for myself, of course. Perhaps they will give me a present at the end of the season."

The various sectionsare separated by high dikes about three to four feet above the bogs and are criss-crossed with trenches. When the bogs are flooded the water comes up nearly to the top of the dikes and when they are drained the water runs off through the trenches. The day we were there a frost was threatening and the Fecteaus said they would sit up that night and watch the thermometers because they rather do that and turn the water on if it was necessary than turn the water on if it was not going to be necessary.

Work in the cranberry bog. The word "bog" may give a wrong impression of the ground on which cranberries are picked. As a matter of fact it is very dry and of course well drained. They cannot pick cranberries if the vines are at all wet as both the vines and the fruit would be damaged. For that reason work doesn't start till ten to ten-thirty a.m. usually, sometimes even later because the bogs must dry out. Pickers can pick up to as late as six o'clock, although that is not usual. The pickers pick with a large scoop approximately two feet long by eighteen inches wide, including teeth. The top of this scoop is screened over to prevent berries from flying out and the bottom is curved like the rocker of a chair only more so. There is a handle across the top of the box at the back. The pickers go along either bending over or on their knees, shoving the scoop lightly into the vines deep enough to get the berries, but not deep enough to tangle up with the heavy stems of the plants. After the scoop is pushed forward it is rocked back on the curved bottom and the berries are pulled out by the long teeth. When there is a considerable number of berries in the scoop so that it is heavy, the scoops are emptied into a cranberry box.

These boxes hold about two thirds of a bushel (this is my guess). The picking was being done the day of our visit by a mixed group of men and women as follows: One boy, 12 years old, two rather young men, four old men, five women aged from 18 to 60, at a guess, with two women "supers". All the women, except the girl 18, were married women. Most of them had picked cranberries before. The pickers were all Polish and Portuguese. The two supers were Americans, middle-age women about one of whom Mrs. Fecteau said: "She is going to make a good super.".

The supers' job is to watch the pickers, see that they have empty boxes when they need them, sometimes move their boxes up for them, if they are not full, watch to see that they pick clean, see that they keep track of their boxes. These women, like Mrs. Fecteau, get 40 cents an hour.

Weeding. Earlier in the season the cranberry bogs have to be weeded. Weeding starts about the first of June or the middle of May. The water is drawn off the bog about the fifteenth of April and by the middle of May the bogs have to be weeded. This is done by any help they can get, not so much school children because at that time they are in school. After school closes some boys are used and women. This goes on till about the middle of August, then there are about two weeks when there is nothing much to do. Weeders are paid 40 cents an hour.

Heavy work. The women are not expected to lift the full boxes of cranberries or carry them to the wheel barrow which takes them out (nothing heavier than a wheel barrow can be driven over the bog as you can feel the land shake even with the weight of people walking.). Mr. Fecteau particularly said "We don't let the ladies lift boxes. They must not strain themselves." While the work of picking would be pretty back-breaking if one tried to do it bending over, most of them do get down on their knees. That, if continued all day, doubtless is tiring on the knees until one gets used to it. It was a beautiful and quite warm day when we were there and I got down with a scoop and picked for fifteen minutes or so. I was awkward at it, but Mrs. Fecteau politely said she thought I would make a good picker. The women were not dressed particularly for the work. They wore gingham dresses and aprons tied around their waists.

If a boy twelve years old could pick and pick well, and if women over sixty could pick, it does not seem to me that the job is too heavy for a well developed and healthy young woman, though I think a picker should be a good strong woman. The scoops weight about seven or seven and one-half pounds (my guess and Mr. Fecteau's).

Pay. When the pickers are working on piece work, women are paid 35 cents a box. The men are paid 40 cents a box. This difference is because the women are not expected to carry their boxes to the wheel barrow or off the bog. The boys and men do have to carry the boxes to the wheel barrow and off the bog. When the picking is good, women should pick from sixteen to twenty boxes a day, earning therefrom $5.50 to $7.00 a day. They would seldom work over seven hours a day and

frequently less. The men pickers, Mr. Fecteau said, pick twenty to twenty-eight boxes a day at forty cents, earning $8.00 to $12.00. He said he had one man who, with very good picking, picked fifty boxes in a day and earned $20.00. That would not happen often, however. Mrs. Fecteau said that a friend of theirs and his wife who had never been on a bog before came out to help and picked fourteen boxes in six hours, which indicates that the rate for amateurs is considerably less than the professional. When the picking is not very good the workers are paid by the hour. The day we were there the workers were getting from 80 cents to $1.00 an hour. That particular bog was not very good owing to the fact that the water had been left on it too long in the spring. Mrs. Fecteau had used her judgment about the hourly rate paid to the different workers. Most of them got from 90 cents to one dollar an hour. The small boy got 80 cents and one old woman only 50 cents.

Source of labor. The pickers that they have this year come from the towns of Chelmsford and Lowell which are from eight to fifteen miles away and some from other places. Mr. Fecteau has to go a round collecting and spends a good deal of time and gasoline getting his workers and bringing them in. The county farm labor agent has helped them in getting pickers also. Mrs. Fecteau said she would be very glad to have women, that they could use 35 to 40 pickers for one month from September 1 to October 1. She did not know, however, how they could be housed as they have no room for them. If women were brought in she said she would want "nice" girls. She herself did not have room in her house for workers, though she said she might house a couple but would not want to feed them. She has already one blind man living in their family who nails boxes for the cranberries throughout the winter and last year nailed three thousand boxes. They buy their boxes knocked down in shooks.

Work in the screening house. In the packing house the cranberries go through a hopper which catches the vines and joggles the berries out to a conveyer which goes through brushes and runs down to two tables where the sorters pick out the culls, and the good ones are run down the long trough into the boxes at the end. If the berries are coming through fast they have women stationed along the sides to pick out the poor ones. Men take off the boxes and nail them up and stack them to be carted to the freight trains. This work in the packing house is done mostly by married women, older than the pickers and they are paid 40 cents an hour,

In summing up, I should say that the work of weeding, picking, screening cranberries in this bog could very well be done to a large extent by women and with the supervision of such people as Mrs. and Mr. Fecteau, conditions would be, I feel sure, excellent. If the company, which is a large and very successful one, were to put up barracks so that they could be housed on the place, the job could probably be perfectly well handled to a large extent by women. There are, however, no towns of any size within easy reach. The country is beautiful and the bogs interesting and novel to most persons. The work would only last a month or six weeks for the picking so that it should not be too long a time for anyone to be willing to stay. Such barracks would have to provide, as well as sleeping accomodations, adequate supervision and suitable food.

U. S. Department of Labor
WOMEN'S BUREAU
Washington

COLLEGE GIRLS AS FARM WORKERS

Administration of a Labor Unit in Massachusetts, 1943

March 1944

CONTENTS

I.	Introduction	1
	A Massachusetts experiment	1
II.	Search for suitable farms	2
III.	Recruiting of young women	3
IV.	Operation of headquarters	4
V.	The season's work	6
	Work performed on truck farms	6
	Work performed on dairy farms	7
	Hours of work	9
	Pay	9
	Transportation	10
	Recreation	10
	Leave of absence and visitors	12
VI.	The value of the project	12
VII.	Outlook for the future	14

Appendixes:

1.	Financial statement	15
2.	Statistics of workers	18
3.	Agreement signed by girls	19
4.	Sample menus	20
5.	Earnings and hours worked	21
6.	Health	22
7.	Comments by employers	23

COLLEGE GIRLS AS FARM WORKERS

Administration of a Labor Unit

in Massachusetts, 1943

I. INTRODUCTION

Farms require many workers during summer months. With the war shortage of male labor for seasonal work, attention has been focused on a new source of labor, the groups who have long vacations, the college girls, older preparatory-school or high-school girls, and teachers. Many efforts were made to bring these willing war workers into food-production service in 1943. This detailed account of one successful experiment is published as guidance for other groups that may be got under way in 1944.

A Massachusetts Experiment

The idea of securing a group of undergraduates to work on near-by farms had grown out of the Massachusetts Government demand for a great increase in food production in 1943 over even the bumper crops of 1942; out of the realization of the great need for additional farm labor if the farmers were to take care of the increased production for which the Government was asking and which the farmers were willing to undertake; out of the belief that there were many young women who would give their help gladly if the urgency of the need were made clear to them; out of the certain knowledge that girls and women could replace men in many farm operations just as well as they could do men's jobs in shipyards, airplane plants, and arsenals; and lastly, out of the hope that the experiment would be of permanent educational value and would develop an appreciation of country life and farm problems that would make every girl a better citizen.

Granted these premises, the immediate problems were: First, to find farmers who would employ young women; second, to find young women who would like to work on farms; third, to find personnel who would conduct workers' housing project, preparing food and giving the necessary supervision to insure smooth-running operation.

II. SEARCH FOR SUITABLE FARMS

In looking for farmer-employers several things had to be considered. First, the farms must be within reach of the living headquarters—it was hoped not over 10 miles away—so that the transportation problem would not be too difficult.

Second, they must be operated by liberal-minded, forward-looking men who, realizing the seriousness of the farm-labor shortage, would be willing to give girls a fair trial.

Third, the farmers must give assurance of good working conditions, fair and regular pay, patience and intelligence in starting the girls on work of which they had no knowledge or experience.

From the Middlesex County Extension Service, whose director had been most cooperative toward the idea, names of some of the outstanding market-gardeners within reach of the headquarters were secured, and two of them were interviewed in October 1942. Both of them expressed interest in the project and agreed to try girls in the 1943 season. The bugaboo of farmers' prejudice against employing women had long been a barrier against any movement to use women on farms, and it was encouraging to find men with the realization that under war conditions women must be utilized for jobs in which ordinarily they had not been employed. One of these farmers had never employed women but was willing to try 4 or 5 (he eventually had 7) because he had been so short of help in 1942. The other tried a few local high-school girls in 1942 and was willing to employ 4 or 6 more in 1943 because, as he said, "the girls had done very well." Eventually he had 8.

Both these men agreed to a day rate which, considering the rates paid throughout the North Atlantic States, was adequate. Three dollars and fifty cents a 9-hour day is just under 40 cents an hour. They could not get men for that, nor even boys of 18 to 20, but on the other hand many farmers felt that they should pay 30 cents, or certainly not over 35 cents. While there was some talk of $3 a day for the first two weeks, both men started the girls at $3.50, and probably were the gainers by it.

By the end of the summer it was clear that the selection of farms could not have been better. Both employers were considerate, patient, and exceptionally intelligent in their handling of their labor. There was never the slightest roughness or "freshness" from the men and boys employed on the farms, the girls knew they were expected to do their best but were never driven nor criticized for their mistakes, and in return the farmers were given a loyalty from the girls that probably they themselves little realized. The farmers never made any complaints of the girls or of their work, though no doubt there were times when they might have done so.

One farm was 6 miles away and the other 12, just about the right distances - at least they "averaged" right.

III. RECRUITING OF YOUNG WOMEN

With the employers assured, the next step was to find the girls. For them the search went to Smith College, where the early closing (May 15) and the long vacation (to September 15) gave an opportunity to recruit workers for fairly long periods. The market-garden season runs for some 7 to 9 months, in general April to November, in Massachusetts.

In March, at the invitation of the College, a number of the "promoters" were invited to Northampton to talk with the girls who were interested in farm work for their long vacation. A group of over a hundred girls assembled, and after listening to plans for farm work in various States, they were given the opportunity of talking more fully with each of the recruiting guests and of making application if they wished to join a unit. In this connection it should be stated that the students' attitude had been influenced by a chapel talk by one of the professors on the country's need for greater food production and the responsibilities women and girls must take on themselves in this matter.

In selecting the farm workers there were three things of major importance to be considered--their physical fitness, their characteristics, and their motives.

Girls should not be accepted for long periods of what may at any time be hard physical work without a doctor's certificate that they are fit for such work. In taking a group of Smith girls all that responsibility was lifted; no girl was accepted unless certified by the College doctors as fit for farm work and guaranteed as "able to take it." No one failed to come up to expectations, from the 5 ft. 3 in. girl who weighed 110 pounds to the 6-footer of 170 pounds. 1/ It was interesting to note that some of the farmers hoped the girls would be "tall and strong." Unquestionably the height and reach of tall girls are an asset in some jobs, but definitely not in jobs that require continuous stooping and bending over. The smaller girls made just as good records as the big ones, and were quite as tough.

The characteristics girls should have are adaptability, intelligence, and stamina. They must be able to drop into an entirely new environment and take it all in their stride, without being disturbed or disturbing others. Intelligence in learning new jobs and new ways - the more they have of such intelligence the better; and it is interesting to note that in farm visits from Maine to Maryland the comment most often heard from farmers about college girls and other volunteers was, "They are intelligent, quick to learn and anxious to carry out instructions."

1/ See Appendix 2 for statistics of age, weight, and so forth.

And lastly, stamina---the ability to take it even if it prove harder than had been expected, to stick to it till it's done, to make the best of difficult situations and "kid one's self along"---those possessions are of inestimable value, and the group that formed this Massachusetts unit had well above the average share of these qualities. Few, if any, had had any real experience in farm work, but they learned quickly. Experience is not so important as knowing how to work, how to concentrate steadily on any job for hours at a time.

The motive actuating these undergraduates was, as it should be, a definite desire to make a worth-while contribution to the war effort in a field they would enjoy. They had been told that food production was a most essential war industry. By nature they were active, more or less adventurous outdoor types, and this project appealed to them more than other opportunities of service. Girls who felt they must consider primarily the financial returns obtainable as well as the service rendered, could not go into farm work because wages are definitely lower than in other fields. And if there were girls who wanted a summer-vacation job, with the emphasis on the vacation, they were given no encouragement and there were none such among the volunteers.

In interviewing the girls there was an effort to make it quite clear that the work would be hard, often boring and tedious, and that the pay, $21 a week, was not so much as probably they could earn elsewhere. The vital importance of the work, the outdoor life, the companionship of other workers, the entirely new experience to be gained, and the satisfaction that comes from doing a necessary job were the points stressed. More girls than could be accommodated were signed up the night of the first interviews. Among them were two girls who wanted not only to work but to live on the farm where they worked.

Through the spring the list was shaken down and a definite agreement, 2/ with dates of beginning and ending work specified, was signed by the girls. Jobs were found with no difficulty at all for five girls who wanted to live and work on dairy farms, two on one and three on another. These girls, while not in the housing-unit group, were under the same general supervision.

IV. OPERATION OF HEADQUARTERS

The next barrier to cross was the recruitment of operating personnel for headquarters. The arrangement offered to the girls was board for $10 a week. As there was no rent to pay, this amount could all be spend on food, household necessities, electricity, fuel oil, and so forth, and household salaries. There were comfortable beds, two to a bedroom, plenty of bathrooms, and an abundance of hot water. There is no question but that the girls had more comfortable living quarters than at most projects. Comfort seemed, however, to make little difference, for

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2/ See Appendix 3 for agreement.

at the simplest camps visited in a Women's Bureau survey over many months, in barracks with wallboard partitions or in tents, with double-deck bunks or army cots, if the camp was well organized and well supervised, with the essential facilities adequately taken care of, the girls were found to be happy and enthusiastic in their work.

The job of finding a good cook, who could plan and operate economically but well, was not easy, but the woman who finally took the job became as much interested (and instrumental) in making the job a success as any of the staff. The appetites of the girls were difficult to gage at first--it seemed as if they could never get enough to eat. Between the things that could not be got and the things that cost too much, it was hard to provide well balanced, nutritious, appetizing meals on what there was to spend. 3/ That the girls eat a hearty breakfast was insisted on--fruit, hot or cold cereal with milk, eggs, toast and butter, jam or honey, and coffee or milk. No one can start a 5-hour stretch of hard physical work on a cup of coffee and a slice of toast. Lunches the girls took with them--a pint thermos of milk, as many sandwiches as they wanted (usually four slices of bread with filling), cookies or gingerbread, and fruit; and as an extra snack, three "sour balls" wrapped in oil paper. Dinner depended on what the marketer could get--meat, poultry, or fish, vegetables, salad, and dessert, occasionally soup or chowder, and baked beans on Saturday; not elaborate fare, but if the girls got tired of it they voiced no complaint publicly. Milk they drank like water; in fact, instead of water. The farm had about 150 quarts a week (60 quarts were skim milk) and the girls could have it before going to bed if they chose.

It had been the plan to have the girls share the work of the household; they made their own beds before going to work, were asked to keep their rooms in reasonable order (the slip there was in failing to decide whose "reason" was to be used as the standard), and they took turns at KP duty, two each day helping to put up the lunches before breakfast (in most projects lunches were put up the night before) and washing the dining-room dishes after dinner. In addition, they washed and ironed their own clothes 4/, there being a washing machine, laundry tubs, mangle, and plenty of hot water in the cellar. Hair washing was carried on extensively here also.

To find a house director, who would assume the responsibility of running the house, buying the food (and in these days of rationing and coupons that was no easy job), who would look after the general welfare of the girls and be on hand in any emergency, was of paramount importance.

3/ See Appendix 4 for sample menus.

4/ Public laundry facilities were nonexistent; it was not possible to get even the house laundry done outside, and the house director took upon herself the laundering of all the household linen.

Finally, a member of the old Smith Unit that served in France during the First World War who had a wealth of experience and capacity for just such a job, agreed to join the group.

The first girl arrived May 11, shortly after that two more, and by June there were 12 at the farm. By July 1 the number reached 15.

V. THE SEASON'S WORK

Work Performed on Truck Farms.

On both truck farms the principal jobs the girls did were those connected with market gardening. They hoed, weeded, cultivated, and used a "shove hoe", a tool that is pushed ahead of one, with a handle like a lawnmower and a triangle of flat steel behind a wheel, which both cultivates and cuts off small weeds between such crops as spinach, beets, and carrots. This implement was the cause of much groaning at first.

Girls dusted the young plants; took up cabbage, cauliflower, and broccoli plants for transplanting; planted sweet corn; cut spinach and lettuce; transplanted and tied up tomato plants; stripped the suckers off tomatoes; pulled and bunched radishes, trimmed and bunched beets and carrots; picked summer squash and tomatoes (day after day for weeks they did this); washed and packed vegetables in the washroom and packing shed; picked strawberries and raspberries; during the haying some of them helped in the hay barn. When the silo was being filled they worked at feeding the cutter and in the silo, spreading and tramping down the ensilage. (This and haying were favorite jobs.) They did not drive a tractor or horses on the market-garden farms, but on one farm drove the truck occasionally to deliver orders. While a great deal of the work was repetitive and monotonous and really hard, there were no complaints and no quitters. There was, however, great rejoicing when some shift in jobs gave them a break from a long-continued task. Suckering (breaking or cutting off side shoots from tomato plants so that only two main stems were allowed to grow and be tied up to the wires) was a job that made hands, arms, and legs literally black from green-tomato-juice stains. 5/ Picking summer squash was irritating to the skin, as squash vines are covered with fine prickles. Down came the rolled-up dungarees and shirt sleeves; some girls put on cotton work gloves, some didn't bother.

On learning that the girls were carrying vegetable boxes and baskets that when full weighed 30 to 50 pounds, it was suggested that they leave the full boxes or baskets for men to carry to the trucks, and in picking use half-bushel baskets or fill the bushel baskets only half full. Not to lift too heavy weights is important, but it was difficult to get girls to recognize this; they wanted no favor shown them because

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5/ The girls scrubbed themselves to no avail, but it was learned later that an acid such as lemon juice would remove the black stain.

they were girls. On one farm they even formed the habit of carrying boxes or baskets on their heads. This probably was as good a way as they could find, provided they had help in getting a 40-pound box up to their heads; tall boys did that for them.

It may be said in passing that it had been hoped to get the Physical Director from Northampton to talk to the girls on the right way to lift and to carry, to land in jumping down, to save their backs, and so on. This director was unable to make the visit, but the unit was so fortunate to get the head of the Physical Education Department at Radcliffe one evening,to explain how to lift weights properly, and how to perform various types of farm work with the least effort and strain. Such advice, before girls begin a job involving physical exertion, is very important. No doubt the girls get instruction of the same sort during their physical education, but to be given a conditioning course, with specific instruction, fairly close to the period when they undertake farm work, is of the greatest value both to the girls and to their employers, who sometimes are afraid of asking the girls to do "too much."

Picking tomatoes when the vines had grown so thick (owing to insufficient suckering) that they were "like a jungle," where one worker could scarcely see another, and where it was necessary sometimes to crawl on all fours to find the fruit on the lower stems, was hard, tiring work when done day after day. It was a constant surprise that no complaints were made. No doubt among themselves the girls reviled certain jobs, but outwardly they gave no sign of it and stuck to them.

Work Performed on Dairy Farms.

The five girls previously mentioned who elected to work and live on dairy farms could not have been improved on in character, adaptability, good sense, good humor, and general ability. It is a ticklish thing to thrust young and attractive girls from an entirely different environment into a family whose composition, habits, likes and dislikes have become set in a different mold from those of the girls, and there can be only the highest praise for the girls who fitted in to their jobs and their farm homes so well, and for the farm families that made homes for them. There have been many such instances of throughly happy and satisfactory combinations, but there also have been cases where such efforts have been unsuccessful, where girls have not been happy in either their work or their home surroundings, and where the farm families have been upset; so to have the arrangement really work over a period of three months to the great satisfaction of the farmers in question speaks well for the girls and for the farmers too. Naturally, the girls were not placed on a farm to live without careful investigation of the sort of people operating the farm, their standards of living and conduct, the accommodations the girls would have, and the probability of satisfactory food and of considerate treatment as to work, rest, and so forth. On both these farms the employers were interested, intelligent, and considerate.

Both farms were almost exclusively dairy farms. One had a retail milk route, the other sold cream wholesale. On the milk-route farm the two girls worked in the dairy every day till noon, pasteurizing and bottling milk, washing 1,400 bottles, putting up "chocolate milk." The work was fairly heavy, with cases of bottles to be lifted and big milk cans to be emptied. Further, it was very wet; the girls sloshed around in rubber boots and a continuous flow of water ran all over the place. An old-type mechanical bottle-washer had to be supplemented with hand scrubbing (they will never again fail to wash milk bottles properly for the milkman). This went on from the time they got up (6:30) till about 12 or 12:30, with breakfast time out. Their finishing depended on the time of the drivers' return with their dirty bottles, and these might come in at any time from 10:30 to noon. After dinner the girls took a rest (unless there was something specially urgent) and after that went out to work at various jobs--planting corn, loading and bringing in green feed for the cows, haying--driving the horse for the hay hoist, tripping the fork in the barn, or spreading the hay in the mow. They helped to fill the silo, they sometimes drove the tractor, and before they had been there long they were milking the cows by machine and learning to strip them by hand. On a pinch, the girls and the farmer milked all the cows.

Their room was comfortable but had a double bed. There was a bathroom adjacent but no hot water till the summer was nearly over, as a part of the hot-water heater that was broken could not be replaced. During that time they had to lug in from the dairy such hot water as they wanted.

The workday was not finished before 6 o'clock, sometimes later. The girls had the essential dairy work to do Sundays; every other Sunday they had off after the morning chores were done.

At the other farm the program was very similar. The work for the three girls began about 8 a.m., after breakfast. The house in which they lived was one-eighth of a mile from the farm and dairy. They had one single and one double room with single beds. They spent their mornings in the cow barn and dairy. They brought in and put out the cows, which stayed in the pasture most of the time. They washed and scrubbed the cow barn repeatedly. They milked and recorded milk production. They cooled, pastuerized, and separated the milk, bottled a very small amount, washed and sterilized all utensils. They too were free to take a rest after dinner if desired, then did whatever work was on the program - cleared stones from fields, helped to set fence posts, worked in the garden, fed young stock. They took turns in having a Sunday free. Occasionally a day or a week-end off was requested, but like the others they were conscientious about asking for time off.

These girls on the dairy farms were paid $10 a week and board to start ($45 a month) and on one farm were raised to $50. They were very satisfactory to their employers; in fact, each farmer confided to the unit supervisor that he supposed his girls were the best of the lot.

Hours of Work.

On market-garden farms in this section the usual workday for day workers was 9 hours, from 7 a.m. to 5 p.m. or from 7:30 to 5:30.

While there was some question as to the advisability of a 9-hour day for inexperienced girls, a different schedule for the girl workers would have entailed extra work for the farmers. The workers all gather at the starting time and get their instructions for the morning work, then go about their various jobs. The same thing is done after lunch, at 1 o'clock. Nevertheless, it seemed unwise to start the first arrivals off on a 9-hour day, and for a few weeks they did not get to work until 8 o'clock. Soon they were ready to be pushed up to 7, and the later arrivals started right in on a 9-hour day and did not complain, though they were completely tired out at night and went to bed soon after dinner. They were told to stop for a rest when they got very tired, and this they did. Their fatigue depended on the kind of work they were doing, but they worked conscientiously and did no loafing on the job. Naturally, some worked harder and some accomplished more than others, but the desire of the group was always to do a good job and to stop for rest only when necessary.

It had been agreed in the first discussion of hours that occasionally girls might be asked to work on Sunday, but that if they did they would be given corresponding time off. During the last five or six weeks, as the harvesting of crops began, the girls at one farm were given Saturday afternoon off and were asked to work Sunday morning, picking vegetables and helping to pack and load the trucks for the Monday-morning market. The girls made no objection to this--to them it seemed a necessary thing; the vegetables must be picked. It is believed, however, that this was not a good practice, because those girls never had a full day for rest and relaxation, never a morning when they did not have to get up and hurry off to work, and the rest they got Saturday afternoon seldom was equal to the rest on a Sunday morning, particularly if they went out Saturday night. The matter of Sunday work should be given careful consideration, and an effort should be made to so arrange the work that one day would be entirely free. No extra pay was given for Sunday work, nor was it expected.

Pay.

The pay that had been agreed on with the market-garden farmers was $3.50 a day of 9 hours, or $21 a week, out of which the workers paid Headquarters $10 a week for board. It was agreed also that they should have continuous work and not be laid off because of the uncertainties of weather or crops. Both these farms had such a variety of crops and were so splendidly managed that there was always something to do. The girls worked just the same on rainy days, out of doors unless there was a downpour. On one farm, in heavy rain they nailed boxes in which the vegetables were to be shipped. Only once were they sent home from this farm and that after a morning's work that literally soaked them to the skin, and then they were told to come back dry if they liked. The other farm, which had no boxes to be set up, sent the girls home on only a few occasions, and

in the whole three months they lost less than two full days. The result of this arrangement was that a girl who worked June, July, and August would earn approximately $275.6/ Of this she would pay $130 for board, and the balance of $145 she would have for her travel to and from home and such use as she saw fit. The girls spent a certain amount on movies, ice cream, sodas, cokes, and so forth. They bought Victrola records, and in a few cases articles of clothing. Purchases of War Bonds were quite usual.

Transportation.

Transportation to and from work was provided for the girls. It is the custom in practically all similar groups, or where small boys are used on truck farms, for the farmers to collect such day workers in the morning from some central point and to take them back at night. This entails considerable time and expense for the farmer, but it is the usual method. Because the project was more or less of an experiment, and because of the anxiety to have it run smoothly from the start, it was agreed in the first discussion with the farmers in 1942 that the girls would get themselves to and from work. To accomplish this the use of the Headquarters pick-up truck and of a private automobile was turned over to the girls six and sometimes seven days a week. They drove themselves to and from work. The gasoline was included in their $10-a-week board.

Recreation.

What would these girls find to do in their leisure time that would keep them contented and their morale up? This proved to be a matter that need not have caused concern. It was more a question of how the girls could be kept "piped down" and not rushing about at a rate that would impair their working efficiency and eventually tire them out.

For the first couple of weeks food and sleep were their major requirements. They could not be filled up and frequently they stumbled up to bed almost as soon as they had finished dinner. If they didn't, they sat around downstairs playing cards, reading, writing, listening to the radio, and playing Victrola records. Later, when they had got their second wind, they were ready for more social activity. The effort was made to concentrate on Saturday night for outings, and the girls said, "I see now why everyone talks so much about going out Saturday night. It's the only night you can go out and know you don't have to get up next day and go to work at the crack of dawn." No rules were laid down, but it was clearly understood that the 9:30 bus from town, which got the girls home at 9:50, was the one they were expected to take except on Saturday or very special occasions.

Headquarters was on the bus line to Framingham, a 10-cent fare. At Framingham are good movie theaters, a bowling alley, restaurants, ice cream and soda fountains, and the usual stores of a small industrial and agricultural center. Everyone goes to town Saturday night. The girls

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6/ See Appendix 5 for earnings.

were asked not to stop off for a meal or movies on their way home from work because they were too dirty, and people who worked on farms or in factories where work clothes were required went home and cleaned up before they went out. Accordingly, on the rare occasions on which they wanted to go somewhere directly from work the girls took their wash dresses and changed to them before leaving the farm where they worked.

Frequently the girls were invited to go out by boys who worked on the farms, usually to some nearby place for food and dancing. Sometimes they went, sometimes they did not. If they did, the boys called for them at Headquarters, were introduced to one of the directors for a few moments' chat before they went out. An older man at one of the farms was a great bowler, and got some of the girls interested in that.

The employers gave almost all the girls an opportunity to go in to the big Boston market with the truck-load of vegetables and see "their" vegetables sold, an important educational experience. On such trips they usually went for dinner to some marketmen's eating place near the market. These trips were in the early evening, so they were not out late. No recreation was offered by the community as such - it did not seem needed; but a very nice corn roast was given for the girls by a neighbor. One of the farmers entertained all the help by a big corn roast, and the local girls working on one farm gave a party for the workers and were given a party by them in return.

Headquarters had one big party for the four farmer employers of the girls and their families. With from 5 to 8 persons to the family, guests and hostesses numbered about 50 persons. The party was for the curious hours of 2 to 4:30 in order that all could get home in time for milking and chores. It was a beautiful Sunday. Half the girls had worked all the morning and had barely finished dinner when the guests began to arrive. The group gathered about the swimming pool. Most of the young people went in swimming, after which were served corn griddle cakes and maple syrup (cooked over an outdoor grill) and coffee. Apparently "a good time was had by all."

The swimming pool was one of the most attractive features of the home farm during the hot summer months. The girls looked forward all day to a refreshing swim when they got home, and so that they could have it the dinner hour was changed to 7 o'clock, as the girls did not get home until 6, or even later if they stopped for cokes or ice cream at the drug store.

Transportation difficulties prevented the girls on the dairy farms from going to Headquarters as much as both groups would have liked, but they did go several times; and early in the season all girls went to a grange supper at the community house near one of the dairy farms.

All told, the varied activities provided the girls with as much recreation as they needed and gave them some familiarity with rural and small-town social activities.

Leave of Absence and Visitors.

Though no definite regulations were made about leave of absence, it was generally understood that girls would not neglect their jobs for pleasure jaunts or long week ends. Girls who lived within easy reach of home frequently went home for Sunday, leaving after work Saturday and returning Sunday evening before 10. Occasionally, girls asked their employer for a week end of two or three days to go home to see a brother or friend on leave from the Army or Navy. This was always pleasantly granted, but it was unusual, and such days of absence were rare rather than common. Several times during the summer friends of the girls came to Headquarters. Parents were always welcome as visitors and several went to visit the farms and to take dinner at the house.

VI. THE VALUE OF THE PROJECT

In taking account of stock at the end of the season, three points of view should be considered: One, the employers' valuation of the work contributed by the girls; two, the girls' valuation of their experience; and three, the value of the project as part of a National movement.

The farmers were unqualified in their feeling that the help had been of value to them. 7/ They all said the girls' work had been not merely a help but indispensable - that they didn't know how they would have got along without it; that the girls had done far better than had been expected. They all wanted the girls another year; they showed an increased willingness to cooperate in the ways and means of making such projects possible.

From the observation of the unit supervisor it appears that the qualities that made the girls most valuable were intelligence, a real ambition to do the work right and do as much as they could, conscientious application to the work at hand, tremendous interest in every phase of their new experience, entire lack of any idea that the job was just for the fun of a new experience, and over all a good nature, a comradeship with all fellow-workers, and a sense of humor that carried them through many tough spots.

What the girls thought of their summer may be shown by their own expressions in letters written after they left the farm.

> The opportunity gave me the most unique educational and worth-while summer I have ever had.
> Loved it all so; good experience and fun.
> Classed in a different category from all other experiences.
> One of the most worth-while summers I ever spent.
> One of the very best summers of my life.

7/ See Appendix 7 for comments of employers.

One of the best summers I've ever spent.
Certainly the most profitable in health, new friends, and
a conscience eased by doing a useful job.
An experience I won't ever forget.
The pleasantest summer of my life.
What I enjoyed most was knowing the people on the farm.
I wouldn't have missed it for the world.
It was a wonderful two months; I loved the work.
I'll never forget the summer.
Put me down for next year.
We'll be back next summer certainly.
Put me down for two months anyway.
Ready and rarin' to go next year.

There was, as these extracts show, a spirit that indicated that the experience had not been undertaken as a try-out of something novel, but with the intention to make their service something of real and permanent value in the war emergency. This spirit should be fostered, for however soon the end of the actual fighting may come, the need for food in this and in all countries will be so tremendous that there cannot be enough, for some years to come, to maintain the health of America's allies and the liberated countries--nor even enough so that actual starvation will not come to many.

The unit would have been worth while for the girls as an educational project if it had had no other value. Educational and broadening it was, both to the girls and the farmers and to their "regular hands," such few as were left. No girl will ever again think of tomatoes as just something for salad, bought in a market; not after transplanting them, training them up to wires, suckering them (or "succoring", as some wrote in their diaries), and finally, in the broiling sun, picking, sorting, and packing them for market. Each different vegetable became something to be tended and cared for according to its special needs, with an enormous amount of labor from planting the seed to harvesting the crop. Every long spell of hot dry weather that threatened to destroy tender young plants or burn to death a field of lettuce was a menace, if not a tragedy, as were long wet spells. The girls became weather-conscious. They were proud of the way their boxes and trucks were packed; they were eager to know what prices their produce brought. They realized finally the tremendous amount of labor that goes into farm produce and the gamble the farmer always has to take with the weather, labor, markets.

Dairy products, they found, are the result of endless care and adequate feed crops; clean milk is the result of constant watchfulness and hospital cleanliness about the cow barn and dairy from early morn until dark.

They became convinced that farmers truly earn their living.

This report describes one project only. Similar ones existed throughout the country. In many of them the girls earned so little as to barely clear their board and other expenses; occasionally they failed to make expenses. That condition should not be. It was the result of fear on the part of the farmers that girls would not be worth a fixed wage; of the inability of some farmers to make up their minds as to what a job was worth; of the impossibility for many inexperienced girls and women, working at piece rates for perhaps a very short time, to acquire enough skill and speed to earn the pay of an old experienced worker, on whose skill the piece rates presumably were based. Undoubtedly there were some girls working on farms who never would make good. In some cases the farmers made no effort to provide work for rainy days on which the regular outdoor work could not be done. Some farmers were as green and awkward in handling women as the women were in their jobs. All these factors must come up for consideration and solution in planning for 1944.

VII. OUTLOOK FOR THE FUTURE

There is no doubt that many more women and girls than in 1943 will be needed in 1944, from April or May to November; they are needed in all seasons, for year-round work. When specific employment can be offered for specific periods, at a definite wage scale that provides reasonable compensation; when suitable housing, good food, and adequate supervision are assured; then the country can appeal to college and school students, to teachers, to all workers who have vacations (and the longer the better), to all women who have that priceless commodity <u>time</u>, and ask them to band together and build up a Women's Land Army that will really be a force in the country and will give service second in importance to none.

In the meantime, every school and college can direct the attention of its students to the importance -- more, the <u>necessity</u> -- of building up a group of girls of a type able and ready to do farm work when vacation comes; such groups can be given some training during their college session; alumnae associations can help by their backing in many ways; and by word of mouth everyone can "pass the ammunition" necessary to awaken women and girls to the fact that theirs is the moral obligation to do something about the food situation.

APPENDIXES

1. FINANCIAL STATEMENT OF THE OPERATING EXPENSES OF THE UNIT May 11 to September 5, 1943

Because the unit was a promotional project, and because at the time it was planned there were no State nor Federal funds available for such projects, certain of the expenses were privately financed. An informal financial statement is presented here.

I. The actual expenses of board and house management, which should come out of the girls' earnings;
II. Rent, upkeep of grounds, and transportation expenses, for which no charge was made.

****

I. Receipts and expenses for board and house management.

(a) Receipts for board and lodging at $10 a week:

19 girls a total of.....	164.0 wks.,	$1,640.21
Supervisor, a total of.....	10.5 wks.,	105.00
House manager and cook, whose board was included in salaries.....	28.0 wks.,	0.00
	Total	$1,745.21

(b) Expenses:

1. Salaries: House manager, cook, occasional extra help (May 11 to September 15).....	$720.50
2. Fuel oil for hot water.....	45.40
3. Electricity for light, cooking, refrigeration, and laundry equipment	73.04
4. Home laundry (2 weeks only; after that, done at home).....	8.59
5. Food	901.30
(Last item includes a few minor household incidentals, as soap, paper napkins, etc.)	
	$1,748.83

Weekly cost of food supplies per person paying	$5.17
Weekly cost of overhead per person paying.....	4.85
Total cost per person.....	$10.02
Weekly cost of food supplies per person fed	$4.45

The close agreement of receipts and expenditures was not made without skill and effort on the part of the house manager and the cook. As during May only three girls were working, the overhead was all out of proportion. (That was one reason why the number was increased from 12 to 15 during July.) Without the produce from the Farm garden this could not have been done so well. The entire cost of the garden could not be charged to the unit, as a great deal of it was canned, but for the 8 weeks in which only home vegetables were used, an estimated $2 a day was charged (18 people were fed). From the middle of May to the middle of July the cost of vegetables was very high.

At the beginning of the season the Farm paid 16 cents a quart for milk. That was too expensive, and it was discontinued when the Farm cow came in (June 16): up to then, milk had cost $42.50. The Farm milk was charged at the rate of 10 cents a quart. The managers were fortunate in having 60 quarts a week of the finest quality skim milk throughout the season at the nominal price of 2 cents a quart. Total cost of milk was $143.37.

The girls, by caring for their own rooms, helping to prepare lunches, and washing the dishes at night, assisted in keeping household expenses within the budget.

II. Rent, transportation, and upkeep of grounds. (Expenses not charged.)

Rent: The rental value of the house for four months was figured at $125 a month, an amount not based on the items that ordinarily make up rental value, but a sum that could at any time have been secured for the period May 15 to September 15.

Upkeep: A certain amount of outside work was necessary (lawn mowing, removing and burning trash, etc.) besides the work in the garden. This has been estimated at $6 a week for 12 weeks (a high-school boy two days a week).

Transportation: Transportation of the girls to and from work was agreed on in outlining the plan to the farmers. This meant using the Farm pick-up truck and the Supervisor's personal car every day. The distance to one farm was 12 miles round trip and 101 trips were made, or 1,212 miles. The distance to the other farm was 24 miles round trip and 82 trips were made (no Sunday trips), or 1,968 miles. The Supervisor traveled (in a car loaned by a friend) to and from the farms for supervisory purposes at least 336 miles; in meeting and taking girls to trains at least 150 miles; in shopping and marketing at least 84 miles (one trip a week), or a total of 3,750 miles. The Government mileage allowance of 4 cents a mile has been used to compute cost of $150.

To sum up these expenses:

Rental 4 months at $125	$500
Upkeep of grounds, etc.	72
3,750 miles of transportation	150
	$722

On the basis of these figures the cost of housing (exclusive of food and management) would have been about $3.50 a girl-week and would, of course, have been lower if the house had been full to capacity all the time.

The cost of transportation (total cost divided by 164 girl-weeks) was 91 cents a girl per week, or about 13 cents a day.

2. STATISTICS OF WORKERS

Of the 25 girls who at various times were members of the Smith Group at headquarters or who lived and worked on nearby dairy farms, 10 were freshmen, 6 were sophomores, 3 were juniors, 1 was a graduate student, and 1 was not a Smith College girl but a friend of two of them, and 4 were prep-school girls (all 17 years old) who were included in the group on special requests or recommendations. Of the 19 undergraduates, 9 were 18, 5 were 19, 4 were 20, and 1 was 21. Their weight ranged from 108 to 168 pounds, with the majority from 140 up; the average was 138 pounds.

So far as could be judged, the girls of 17 stood up to the work as well as the older girls. It is not probable, however, that a group of urban girls 14 to 16 could possibly have done the work this whole group did. What has been seen of younger groups working indicates that, except for special individuals, the younger girls are not physically up to nearly the same amount of work as the girls 18 to 21 or over, nor should they work such long hours.

All the girls came from urban or suburban areas, as follows:

Massachusetts - 7

Swampscott 2; Springfield, Worcester, Concord, Northampton, Gloucester, 1 each.

New York - 7
New York City 2; Yonkers, Larchmont, Nyack, Schenectady, Eggertsville, 1 each.

Connecticut - 4
New Haven, Darien, South Norwalk, Riverside, 1 each.

New Jersey - 2
Ridgewood, Madison, 1 each.

Delaware - 1 Newark
Pennsylvania - 1 Wilkes-Barre
Rhode Island - 1 Westerly
Vermont - 1 Burlington
England - 1

None of these girls except the graduate student had ever been regularly employed before.

3. AGREEMENT SIGNED BY GIRLS

That the girls might feel aware of their obligations, once having registered for the work, they were asked to sign the following agreement; and that the parents might have some idea of what their daughters were going into, a letter (copy below) was sent to all parents, covering the points they might be most anxious about.

ENROLLMENT AGREEMENT

The Smith Unit is set up with a two-fold purpose:

a. Contributing war-emergency service in the field of agriculture.
b. Demonstrating that the work of women, on farms, can be a satisfactory substitute for that of men (within women's physical limitations).

It is approved by the Massachusetts Middlesex County Extension Service and Farm Labor Committee, with whom it is cooperating.

It is under the immediate supervision of---------- ---------- a member of the Governor's Advisory Council for farm labor in Massachusetts.

Girls enrolling for this project will work on nearby market-garden or dairy farms and will be paid $3 a day the first two weeks; then, if satisfactory, $3.50 a day. Ten dollars a week will be deducted for board and lodging, girls to receive balance. If boarding at the farm, will start with $10 a week plus board.

Work will be six days a week; if emergency work is required Sunday, corresponding time off will be granted.

If a worker is found unsuited for the work, she will be asked to withdraw.

Under the Massachusetts Workmen's Compensation Act farmers are not obliged to carry liability insurance for injury, connected with work, sustained during period of service. The farmers who are employing girls of this unit do, however, all carry such compensation insurance.

The members of this unit will live and board at ---------- and will be transported to and from their place of work.

<u>To be signed by accepted applicant</u>

I hereby accept this agreement as specified above and agree to serve from _____ to _____ 1943.

_____
(Signature)

This agreement, <u>not</u> considered a <u>legally binding contract</u>, is simply for clear understanding of project.

4. SAMPLE MENUS

The girls were always hungry, so the effort was made to induce them to eat everything that was provided and to overcome some of their habits of aversion to certain foods, especially vegetables. They had milk for breakfast and dinner and always a pint with their noon lunches. Over and above that, there was always excellent skim milk that they could have in the evening or for a bedtime snack.

Breakfast:

Fresh fruit or fruit juice, or cooked fruit, such as prunes, rhubarb, apricots, or applesauce; hot and cold cereal, with sugar and top milk; eggs; toast, with jam or honey; coffee or milk.

Noon lunch (to be taken to work):

Sandwiches, part with meat, fish, or egg filling, and part with peanut butter and jelly, or lettuce and tomato or cucumber; cookies; fruit (such as oranges, apples, dates, figs, or dried prunes); a pint of whole milk; hard candies.

Dinners (sample menus):

(No bread or butter served.)

1. Pork chops; mashed potatoes; cabbage; cucumber and tomato salad; chocolate ice-cream.

2. Lamb goulash; squash; corn on the cob; cucumber and cauliflower salad; gingerbread with whipped sauce (made with evaporated milk).

3. Broiled codfish; boiled parsley potatoes; stewed tomatoes; beets; apple pie.

4. Peppers stuffed with chicken; carrots; creamed cauliflower; tomato and lettuce salad; blueberry pudding, foamy sauce.

5. Swedish meat balls; boiled potatoes; corn on the cob; broccoli; cream tapioca pudding.

6. Baked ham; mashed potatoes; boiled onions; tomato salad; cut-up-fruit dessert.

5. EARNINGS AND HOURS WORKED

The 19 girls who spent all or part of the summer at Headquarters earned the following amounts:

				(Gross)
4 girls	1 mo.	Total earnings	$341.13:average	$85.28
1 girl	6 wks.	Total earnings	137.75:average	137.75
7 girls	2 mos.	Total earnings	1,167.07:average	166.72
7 girls	3 mos.	Total earnings	1,731.38:average	247.34

Total earnings (gross) $3,377.33
Total hours worked 8,860
Total girl-weeks 164

Largest amount earned by one girl..... $282.79

One local girl joining the group for work for 8 2/3 weeks earned $181.

One local girl joining the group for work for 4 1/3 weeks earned $96.

Total girl-weeks (21 girls) on farms..... 177.
Total girls' earnings (21 girls) on farms.... $3,654.33

There were also 6 girls who worked and lived on dairy farms. Their earnings, in addition to board, were -

	(net)
1 girl, 21 wks., total	$210
2 girls, 14½ wks. each, total	296
2 girls, 9 wks. each, total	180
1 girl, 4 wks., total	40
	$726

Pay was $45 a month; two earned $50 a month part of the time.

6. HEALTH

The health of the girls was excellent. An occasional cold, one or two mild attacks of what seemed like intestinal flu, kept perhaps half a dozen girls from work a couple of days each during the summer. Many girls went all summer without missing a day. There was no "labor turn-over"; each girl stayed as long or longer than the term agreed on, and the percentage of absenteeism was negligible. The only cause of absence, besides the rare illness, was when girls asked to go home to see a relative or friend on leave from the Army or Navy.

No injuries of a serious nature were incurred. Minor cuts, bruises, poison ivy, blisters were treated at home. There was a first-aid kit in each car. In every case where there was any doubt as to treatment, a doctor was consulted, perhaps half a dozen times in all.

Two girls on dairy farms stuck pitchforks into their feet. The fact that this is a common accident (also reported from other units) raises the question of the importance of anti-tetanus inoculations. No wound was serious; all were treated by doctors.

The supervisor's feeling is that the occasional colds or illnesses probably were caused by a condition of fatigue which, unrecognized by the girls, still did occur if a little too much outside activity was going on. (This occurs in college sometimes after a week end away.)

Drinking water.

The matter of drinking water at the place of work certainly needs some attention. A common open water pail with a piece of ice, and workers drinking directly from the pail or from a common dipper, is an invitation to contagion. Yet it was impossible to get girls to carry even flat paper cups of their own or large thermos jugs of water. The chief objection, besides the bother, was that they did not want to appear too high-hat to do as the other workers did. (This was true of other units also.) Farmers almost certainly would cooperate in working out a better scheme for hot, thirsty days in the fields.

Toilet provisions.

These also should have some attention. In the case of one farm, homes adjoining far-away fields offered girls the facilities of their bathrooms, and the farm home bathroom could be used. At the other farm the toilet attached to the roadside stand was used by about 20 girls and was not adequate.

7. COMMENTS BY EMPLOYERS

The following comments were received from the farmer-employers in reply to a letter asking the value of the girls to them, and what they considered their strong and weak points compared with boys of the same age group (17 to 21).

We have found the girls most useful on work that is not too heavy, but which requires skill and painstaking ability, such as picking and packing lettuce, tomatoes, celery. Same comment on picking tomatoes, summer squash, spinach, etc., pruning tomatoes, trimming and training trellis tomatoes.

Some of the girls, at times, had good suggestions on easier and more efficient ways of doing certain jobs.

More conscientious about their work and use of their time than boys the same age.

Superior in some ways to boys; could be trusted to keep busy better than boys.

Loyalty to the farm and organization back of it a strong point.

Compare favorably with boys 18 to 20 and very much superior to the average of the 12 to 16 group.

Willing to do whatever asked; cheerfulness and sticking to a job till it is finished.

Much more intelligent than boys we have had.

Have not wasted time and shirked as boys have tendency to do.

Quality of girls' work was better than boys'.

Very useful in the pasteurizing plant and running the milking machines, and have been able to do all the work in the plant except washing the cans (large cans weigh about 20 and 40 pounds) and lifting the milk (cans weigh 60 pounds) into the pasteurizer.

Have taken full charge of pasteurizing, separating, cooling, bottling, and keeping the dairy clean and orderly, and helpful in other phases of our farm work.

They were not adapted generally to too heavy or too hard work.

Had a tendency to slow down on jobs where they were closely grouped and could chatter among themselves.

With right supervision boys of same age could out-do girls in quantity of work.

Perhaps they would have been more useful if they had had some training before, but in our case the duties were quickly learned by them. (Dairy.)

They would certainly have been more useful with preliminary training. (Dairy.)

Preliminary training would have made them somewhat more useful but not to an appreciable extent. (Market garden.)

The girls would, of course, have been more useful with some preliminary training. (Market garden.)

All felt that the girls of the same group would unquestionably be more valuable another year.

In considering the comments comparing the work of the girls with that of boys of the same ages (17 to 21) it should be remembered that the boys who usually have found their way to farms for such work as the girls did seldom have come to the work with the same patriotic motive and desire to make good that the girls had in 1943. It is not that boys could not do equally well or better, but rather that the boys who might be satisfactory are not now available.

Febr. 14, 1944.

Oliver Farm Equipment Co. 533 Chapin. South Bend, Indiana

Product: Treads for tanks and farm equipment.

Number. Men: 1000 Women: 400

Contract provides for equal pay; jobs and rates are not classified by male and female.

Union: United Farm Equipment Workers. CIO

Occupations . Agriculture - 1945

12/28/45

U. S. Department of Labor
WOMEN'S BUREAU
Washington

PRELIMINARY DRAFT --
MILDLY CONFIDENTIAL

Post war

THE EMPLOYMENT OF WOMEN -- LOCAL SELF-STUDY

The following outline has been prepared in answer to requests from communities for help in studying the local employment problems of women. It offers a plan for community self-study by suggesting questions about the extent of employment and unemployment in the area and about the local agencies and facilities which are, or might be, helpful in meeting the employment problems that women are facing.

Such information might be brought together by any one of various local agencies, or by committees representing a number of agencies, or by a special committee established to consider local employment problems.

After collecting information on the suggested questions, the agency or committee making the survey can more clearly analyze the weaknesses in the local facilities and plans directed toward providing employment. This analysis may be used as a basis for planning a constructive local program.

The outline seeks to make use of information that is already available in the community and to collect additional data primarily from agencies and organizations. It is intended that the outline be expanded or modified in accordance with the interest and needs of local communities.

I. WHAT STUDIES OR SURVEYS RELATING TO THE EMPLOYMENT AND UNEMPLOYMENT OF WOMEN ARE ALREADY AVAILABLE?

The chief agencies which have prepared reports of local interest are listed below. You can locate many of these in the telephone and city directories. The public library or leading educational or business research institutions may have collected some of the source materials. Write to the state, regional or national offices for their material on your locality if it is not available locally.

The Federal Government as a source of information:

U. S. Department of Commerce, Bureau of the Census has the most complete information on the characteristics of the population. Information on the labor force can be obtained for your state, cities over 100,000, and metropolitan areas. More recent data for ten selected areas is given in Series CA-3 for Congested Production Areas. National trends in the labor force are reported monthly.

U. S. Department of Labor, United States Employment Service (during the war this was an agency of the War Manpower Commission) will have reports on employment.

U. S. Department of Labor, Bureau of Labor Statistics - see especially Bulletin 826, Impact of the War on Employment in 181 Centers of War Activity.

U. S. Department of Labor, Women's Bureau - see especially releases on postwar employment expectations of women workers in selected war production areas.

Federal Security Agency, Community War Services - see reports on war areas.

Federal Reserve System, Regional Office - see special reports on employment and postwar surveys.

Your state government as a source of information:

Labor Department, especially any department concerned with women and children. The Unemployment Compensation Division - see reports on claimants for unemployment compensation.

State postwar planning commissions

Other organizations as a source of information:

Chamber of Commerce
Committee for Economic Development
Council of Social Agencies and its member agencies
Union organizations
Employers' organizations and local firms
Educational institutions in locality

II. HOW MUCH EMPLOYMENT AND UNEMPLOYMENT IS THERE IN THE AREA AND WHAT CHANGES ARE TAKING PLACE THAT PARTICULARLY AFFECT WOMEN?

1. What is the over-all employment situation as shown by
   a) the number of men and women employed and unemployed and
   b) the number of men and women claiming unemployment compensation

Secure information on trends, including, if possible, information for the following dates:

1940
the wartime peak
the lowest employment following the end of the war
the most recent figures

Study the relation of employment and unemployment to the personal characteristics and work experience of individual workers, such as the age of the workers, length of their work experience, occupation - (i.e. professional, managerial, clerical, sales, domestic, personal and protective service, factory operatives) - industry - (i.e. manufacturing, trade, service, government, etc.)

2. What employment changes affecting women arettaking place in the major industrial plants and trade/service establishments in your locality? /and

Information may be collected for the major plants and establishments along the following lines:

Name of establishment.
Number of women employed before the war, at peak and at present.
Occupations open to women before theawar, at peak and at present.
Are there plans for the major re-hiring of workers?
Are workers being hired now? Men? Women?
How many job openings are listed for women at present?
Are any of these in new fields?
Are major layoffs anticipated in the future?
How has the end of the war affected hiring policies? i.e. in regard to hiring of women in production work, discrimination against married women, hiring of girls under 18, those not meeting definite educational requirements?
Have women's take-home earnings been affected because of changes in basic rates, hours, or lower paid work?
Have the products or service of the plant shifted from prewar to wartime to postwar?

3. Summarize the above kinformation for the community as a whole to show where the major opportunities for employment of women exist, taking into account:

Reconverted war plants
New plants
Older plants making new products
Trade and service industries
Government

Sources of information on the employment situation are the same as those which may have made studies and which are listed under Section I. In addition, inquire of:

U. S. State and local Civil Service Commissions or Personnel Boards
City Planning Commission
Representatives of industrial plants, trade and service industries

Tallies of job advertisements in local newspapers may also help indicate job openings at particular plants or establishments.

III. What are local agencies and organizations doing that affects the employment of women?

1. Which agencies are working to promote opportunities for the employment of women? Insofar as the information is available, cover the following points:

Name of organization
Address
Name of president and/or executive secretary
Form of organization

Board or executive committee, committees, departments or divisions
Representation from what groups in community
Membership (numbers, program closed to membership or open to outsiders)
Meetings, (frequency, membership only or open to outsiders)
Staff, names or titles, special fields covered

Program (as related to employment):

Functions, such as planning, counseling, training, placement
Special groups served, such as women, clerical workers, household employees, industrial workers, veterans or those holding veterans preference rating, handicapped, older women, minority races

Participation of women in the program:

Participation of women in a leadership capacity, as members of boards, committees, staff, volunteer service
Participation of women as the recipients of the agency's service, in terms of numbers and relative importance in the program.

2. Summarize the above information to show - a) procedures and agencies available to take care of women with specific vocational problems. Among the groups of women that might be considered are:

Women seeking for information regarding jobs
Women seeking job training
Women seeking expert advice and consultation regarding their vocations
Women seeking referral to jobs: Among the various groups of women who may need help in getting jobs are:

Women who are trained and experienced in one or more definite skills or occupations: industrial, clerical, sales, professional, service, household employment, other;
Women who have no skill or work experience

Women who have physical handicaps
Women who seek part-time work
Women in the older, and younger age groups
Women belonging to minority races (Negro, oriental)

b) Types of service offered by particular agencies, such as:

Interviewing
Information about occupations opportunities available in the community
Interest and aptitude testing
Library of material on vocations
Group information, talks, lectures, trips
Referral channels to individuals and places of employment

Sources of information on agency program:

Postwar Planning Commission and Sub-committee on Women's Employment
U. S. Employment Service
Vocational and personnel associations i.e. National Vocational Guidance Association
Unions
Civil Service Commissions, federal, state, local
Information, service or counseling center
Placement and counseling bureaus in school departments, colleges and universities
Council of Social Agencies and member agencies i.e. Y.W.C.A., Y.W.H.A.
Women's organizations and clubs i.e. Business and Professional Women's Club, Women's Chamber of Commerce, American Nursing Association, American Association of University Women.
Private employment offices

IV. What needs to be done and what can be done locally to expand employment for women workers? What agencies are best equipped to carry out this work?

December 28, 1945

OCCUPATIONS

AGRICULTURE - 1946-1947

TIAN SCIENCE MC

Registered in U. S. Patent Office

AN INTERNATIONAL DAILY NEWSPAPER

BOSTON, FRIDAY, OCTOBER 17, 1947 **—ATI

Peaches Pick Apples Easy as Pie



By Lyman W. Fisher Staff Photographer

Wellesley College students drop their textbooks and pick up baskets to fill with tempting Baldwin, Delicious, and McIntosh apples from the campus orchards in a drive to help balance their budgets and conserve food. These undergrads with full baskets are: Roberta Speier of St. Louis, Mo.; Betty Morse of Philadelphia; Phyllis Newman of New York; Sonia Novak of Lima, Peru; Jane Frieder of Cincinnati, Ohio; Kitty Dandy, Baltimore, Md.; Mary Downing, Grosse Pointe, Mich., and Gale Holmgren of New York. Apple sauce or apple pie, they're really cookin'.

2 Pedigree 7/27/48
WB
1326

U. S. DEPARTMENT OF LABOR
Wage and Hour and Public Contracts Divisions
Child Labor Branch
Washington 25, D. C.

July 1948

TO THOSE INTERESTED IN THE PROTECTION OF CHILDREN IN AGRICULTURE:

You will be interested in new developments affecting employment of children in agriculture. The farm placement program has as you know been transferred from the U. S. Extension Service to the United States Employment Service and the State Employment Services. Mr. Robert C. Goodwin, Director of U.S.E.S., recognizing the need for adequate safeguards for the employment of youth in agriculture, has recommended certain standards for the placement of young workers in agriculture—a 14-year minimum age for placement in farm work at any time and a 16-year minimum age for placement during school hours. Attached are excerpts from his statement to Regional Offices and State Employment Services. The standards recommended by Mr. Goodwin for farm placement are in line with voluntary child-labor standards developed by Federal agencies and national organizations during wartime. They merit public support.

We are now at the highest level of peacetime employment ever reached and many farm labor contractors and growers recruit their own workers. Therefore, despite the effort of the public employment offices to place in accordance with good standards, many children undoubtedly will be hired to do farm work at too young an age, for too long hours, and under conditions detrimental to their health, safety, and general welfare.

The Child Labor Branch is interested in having as much information as possible about the conditions under which children are currently employed. If you are in a position to observe conditions of employment of children in agriculture which are especially detrimental to them or which are under programs with desirable conditions, I should appreciate your sending me as much information as possible about the circumstances of such employment.

Very truly yours,

Elizabeth S. Johnson

Elizabeth S. Johnson, Director
Child Labor Branch

Attachment

(06764)

Excerpts from Statement on

EFFECTIVE UTILIZATION OF YOUTH IN AGRICULTURE

Made by Director of the United States Employment Service
To Regional Offices of that Service
and State Employment Services

June 1948

"Local youth customarily provide an important manpower resource for handling agricultural manpower problems. In some areas there is extensive recruitment of young people not ordinarily in the labor force for assisting in harvesting the crops. In all such cases the recruitment for agricultural workers needs to be so planned as to assure safeguards for their health and welfare and to protect them from interference with their education. Because of the importance of this problem during the war years, the United States Children's Bureau, in cooperation with the Office of Education, Department of Agriculture, and the United States Employment Service drew up a set of principles which should be observed in the recruitment of young workers. Since these principles are applicable to the present situation, they are set forth below for your guidance in this connection:

"Programs for the employment of young workers should be developed with full regard to State and Federal child labor laws and to safeguards necessary to protect the health and well-being of these young workers. Specifically, the recruitment of young workers for agriculture should be planned and conducted in accordance with procedures providing that--

"1. All plans for the use of young workers are developed as part of broad programs for meeting the needs of agricultural labor based on consideration of all available sources of labor and the wages and working conditions offered to adults;

"2. State departments or agencies dealing with education, labor, health, and agriculture participate in the development of policies regarding the recruitment of young workers and possible modification of school programs, and in the application of these policies to local situations;

"3. School work and home duties should constitute the only work activities of children under 14 years of age; and such children should not be employed in agriculture outside the home farm;

(06764a)

"4. When young workers are placed in agricultural work, provision should be made for safeguarding their health and welfare through reasonable hours of work; wages at not less than established prevailing rates; safe and suitable transportation where needed; and, for those living away from home to be near their work, provision of fully adequate housing accommodations, supervision, medical care, and leisure-time activities.

"In applying the above principles adherence to the following is urged; that recruitment and placement of youth be limited to those who are 14 years of age and older for any work at any time, and to those who are 16 years of age or older for work during school hours or for work which requires the individual to live away from home or family; and that when children of 14 and 15 are referred they be referred only to farms where there are supervisors concerned with the interest and welfare of these young workers. The 16-year minimum age for placement in work during school hours is consistent with the child labor provisions of the Fair Labor Standards Act which forbids the shipment or delivery for shipment in interstate commerce of the products from any farm on which children were employed while legally required to attend school under the laws of their State.

"It is believed that adherence to these principles and practices will safeguard children, and that these principles are fully compatible with the needs of achieving our agricultural production goals. In addition, these principles will facilitate the constructive participation of youth in the nation's great productive effort."

Mimeographed by

U. S. Department of Labor
Wage and Hour and Public Contracts Divisions
Child Labor Branch
Washington 25, D. C.

July 1948

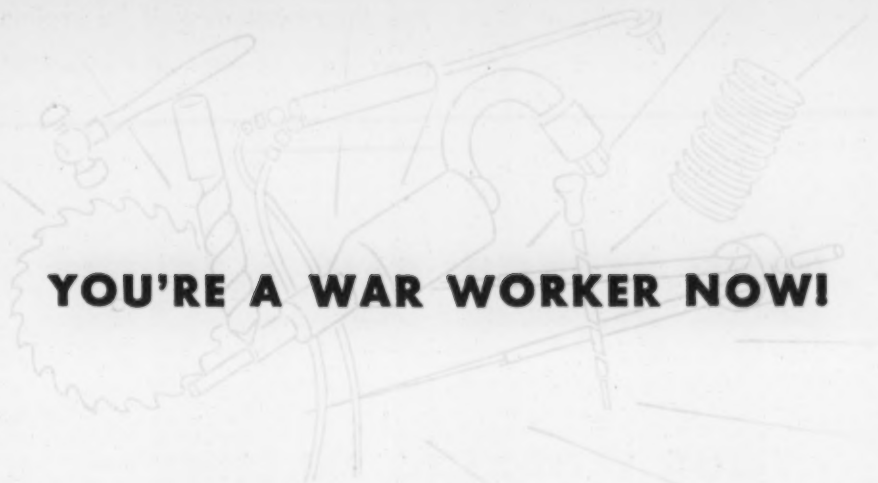
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OCCUPATIONS + INDUSTRIES - AIRCRAFT

BELL

YOU'RE A WAR WORKER NOW!





YOU'RE A WAR WORKER NOW!

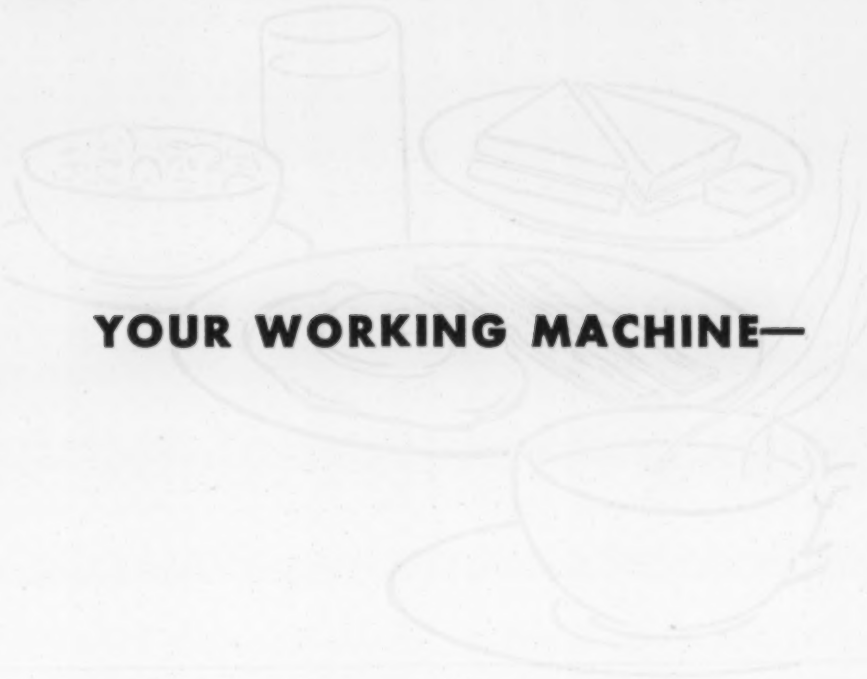
YOU'RE about to buck rivets, weld seams, assemble or inspect parts. Embark on a new adventure. It's not like flying to Ireland or sailing to Africa. But, it does take a little preparation.

The military services provide marines, sailors, and soldiers departing for India or Iceland, with guide books. These suggest how to keep fit in new climes; how to get on with strange people.

You're about to be surrounded by loud factory noises, breathtaking machinery, overpowering tools. You're entering a territory which, until recently, was exclusively a man's world.

Just as our men in uniform fight better when they follow rules for keeping 100% fit; aid our cause by getting on well with the natives. . . .

You'll build more planes if you, too, figure out a healthful regime and a system of getting on with the members of your new industrial world.



YOUR WORKING MACHINE—

Maybe you've been facing the morning fortified with a sip of coffee. Perhaps you could get by on your former job, or in your own home (with the icebox and couch for first aid) on a one cylinder performance.

But . . . When you rivet, or weld, or inspect, you must use all your cylinders or the planes won't get to the fighting front *until too late.*

The best pep producing program is . . .

1. a large nutritious breakfast with . . .
   fresh citrus fruit or tomato juice
   enriched bread or whole grain cereals
   eggs, meat, or fish
   milk and coffee or hot chocolate

2. an adequate midshift meal (whether at 12M or 8:42 P. M.)

3. a daily quota of . . .

2 or more glasses of milk
2 or more servings of vegetables (raw often)
2 or more servings of fruit (1 citrus or tomato)
1 egg
1 or more servings of meat, cheese, fish, or legumes (beans, peas, lentils)
cereal or bread (whole grain or enriched)
2 or more tablespoons of butter or enriched substitute

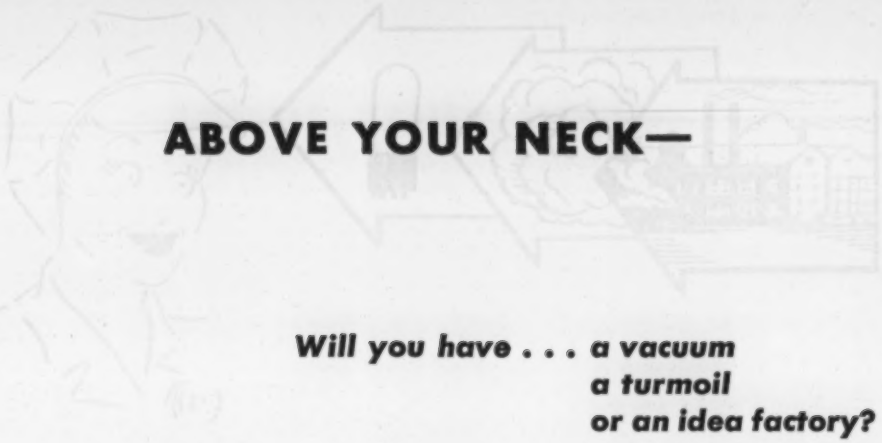
4. your particular machine's required amount of unbroken sleep (7-9 hours) even if you retire at peculiar hours.

5. relaxing exercises to fit your type of work . . . using a different group of muscles from those on the job.

if you sit all day, walk, dance or swim
if you walk around a lot on the job, exercise your hands and arms for fun.

6. that variety of recreation which adds zest. If you work your mental processes hard all day, don't expect crossword puzzles or bridge to do the trick.

7. a check-up with your doctor whenever you feel you're slipping.



ABOVE YOUR NECK—

Will you have . . . a vacuum
a turmoil
or an idea factory?

1. Those with vacuums get bored on the job, add most to absenteeism; fail to pull their load.

2. Those with turmoils, worrying about Junior's pranks, boyfriend's exploits with foreign women, unfounded rumors concerning our war effort, or household problems, become so detached from the job that the drill press bores a hole in the hand or the rivet gun slices off a finger.

3. Those with an idea factory hatch new ideas to cut time schedules, improve output, do their own jobs better.

If you want to be in class 3, prepare now
find out more about the whole industry
figure out your place in war production
get all the inside "dope" about your job
arrange for adequate care for Junior
all day care if he's tiny
after school care from friends, relatives or organizations if he's older

delegate many home responsibilities
discover new short cuts in magazines, from friends, or your own initiative
discourage all rumors unless they are proven facts
start off with the habit of parking your cares and worries at the gate as you clock in!



GROOMING FOR YOUR PART—

Clothes—

Everywhere women are clamoring for distinctive uniforms, Marines, Spars, Wacs, Waves, Wows . . .

Always women have wanted to dress the part . . . action back shirts for tennis, new type home jackets for present fuel shortages . . . and, according to Charlie McCarthy, you have to carry a brief case to be well dressed in Washington.

Never high heels on golf courses
evening clothes for bridge luncheons
slacks for church

Fashion experts and safety engineers have devised the correct clothes for your new job. To be the well dressed factory worker, you'll wear . . .

slacks, jumperalls and loose fitting blouse, or coveralls to make you look like a productionette, not a sweater girl

caps, scarfs or nets (if you're to be around machinery) to save you from wearing a wig later on

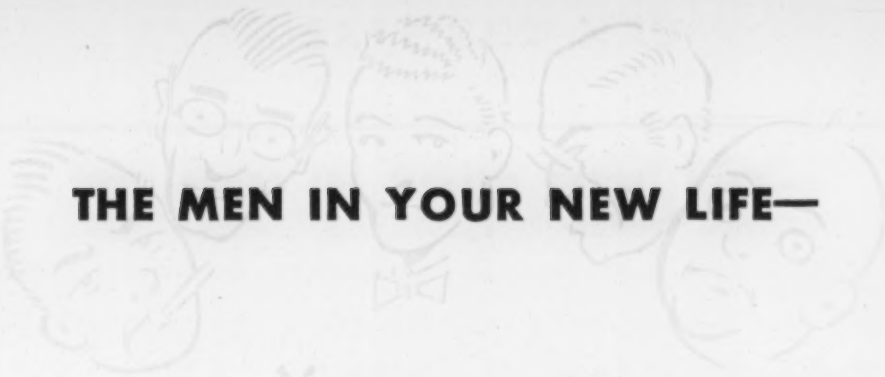
jewelry-less fingers and arms so that you'll have all your extremities intact

shoes to protect your toes with low heels to give you the support you need for an all-out performance

Personal Hygiene

Don't Offend!

Working shoulder to shoulder, in small confines, you should be as careful of your personal hygiene as you would be dressing for a dance. This perspiration-producing work demands deodorants, daily baths, frequent changes.



THE MEN IN YOUR NEW LIFE—

YOU'VE dealt with brothers, cousins, husbands, friends and bosses. There've been as many men in your life as women. Your new working companions, sub-foremen, assistant foremen, foremen, will be a combination of all the men you've known. You've probably developed a system for getting on with men which will work equally well in your new working world.

But, we'd like to suggest a few highlights of

Industrial Etiquette . . .

Men don't pick up your dropped rivets, or blow torches (if they did, they'd be using their job time to do yours)

Men who are efficient in their work don't want to be distracted by feminine wiles during work hours. (They prefer to enjoy their femininity in larger doses in their homes, at social affairs, or public entertainment centers)

Successful foremen don't appreciate attempts to substitute gushing or apple polishing for accurate inspection, correct template cutting or doing any job correctly.

Sub-foremen aren't pleasant and helpful because they want you for an intimate friend. But, because they want you to like your job, turn out a maximum amount of work, *up* their department's production records.

CAN YOU TAKE IT?

Noise in your ears

Exclaimed a woman worker . . .

"These factory noises sound like one great symphony entitled, Victory. The drill presses are the violins, the riveting, the wind instruments, the drop hammers, the cymbals. I adore symphones and this is the most moving, most thrilling I've ever heard."

Complained another . . .

"I think I'll go crazy listening to all that racket. It's terrible."

They were hearing the same factory working. The only difference was in mental attitude. Probably most of you can't go so far as the first productionette. But remember that Shostakovitch interprets factory noises in "Age of Gold." Lots of you will figure out some type of appreciation of directed production or immunity to such petty annoyances.

Short tempered co-workers, leadmen, or supervisors

Remember . . .

Your fellow workers and bosses are chosen for their abilities to produce bombers. They may not have all the suavity or pleasing personality of your favorite movie hero.

Rumor has it that women are petty, jealous, catty, take everything personally; let their emotions sabotage the war effort. Rumor is usually wrong. Cynics are fast being forced to admit that this one is definitely outdated (in most cases)

Everytime you become agitated over what somebody says, you're merely burning up energy to no purpose; cutting down your efficiency—perhaps others'.

If you have a priority system for your emotional energy, you won't waste it on these trifles. You'll ration your strength for plane production.

The "feather ruffler" may have moods too . . .
Perhaps . . .
a pain
no breakfast coffee
lagging production quota
bad news about his son
a friend lost
or, perhaps, just *no* sleep

You, yourself might even figure out more tactful techniques to pour oil on factory friction

Assignments you don't like

If

your foreman puts you on a job you dislike
you hear about another department you think you'd prefer

you begin to wonder if you hadn't rather sell boudoir caps

Consider these facts

some of the boys in uniform are doing several jobs they wouldn't choose

you've done things you don't like before

anything that requires transferring, exit interviewing, or what not, of factory personnel, slows down production, helps Hirohito, Hitler.



PRODUCTION TONICS—

Those first 3 weeks you're working you're going to get awfully tired and wonder why you're working.

Remember

everyone who ever worked felt the same way
everyone who ever moved to a new town felt the same way

every beginner goes thru that dull, awkward period of learning until he becomes a champ

Try some discouragement antidotes

Consult your doctor if you need physical pep
figure out how many wings you're sending to the fighting front each week

note the courage displayed by the returned wounded using their remaining senses or limbs for high powered producing

watch a woman who has a son "over there" throw every ounce of her energy into the factory fighting line

talk to some of our returned heroes who have come from battlefields where there wasn't enuf ammunition to pass.

THOSE LITTLE TEMPTATIONS—

When

your alarm explodes at daybreak or in the middle of the afternoon (depending upon your shift), you may want to turn it off, turn yourself over, and go back to sleep—

DON'T

you're invited to an especially enticing party during your working hours, your imagination may toy with the idea that you should develop a headache and leave the job for much needed relaxation—

DON'T

you read a tempting bargain page, you'll wonder how you can borrow that time promised to Uncle Sam, for your own "morale-building"—

DON'T

you imagine all types of aches and pains as an especially important affair approaches so that you've almost "kidded" yourself into the need for staying away from work—

DON'T

BUT DO

get your friends educated to entertain on your days off or hours convenient to your working shift

give your non-working friend who plans to bargain-shop, the fun of picking out your desires to your specifications—

or, phone one of the very adequate department store shopper's services and feel like a lady, delegating some of your work, while you harness your energy for the boys in the foxholes and on destroyers—

BECAUSE

you are the *WOMAN* behind the man behind the CONTROLS.

Girl Mechanics Called OK at Army Air Field

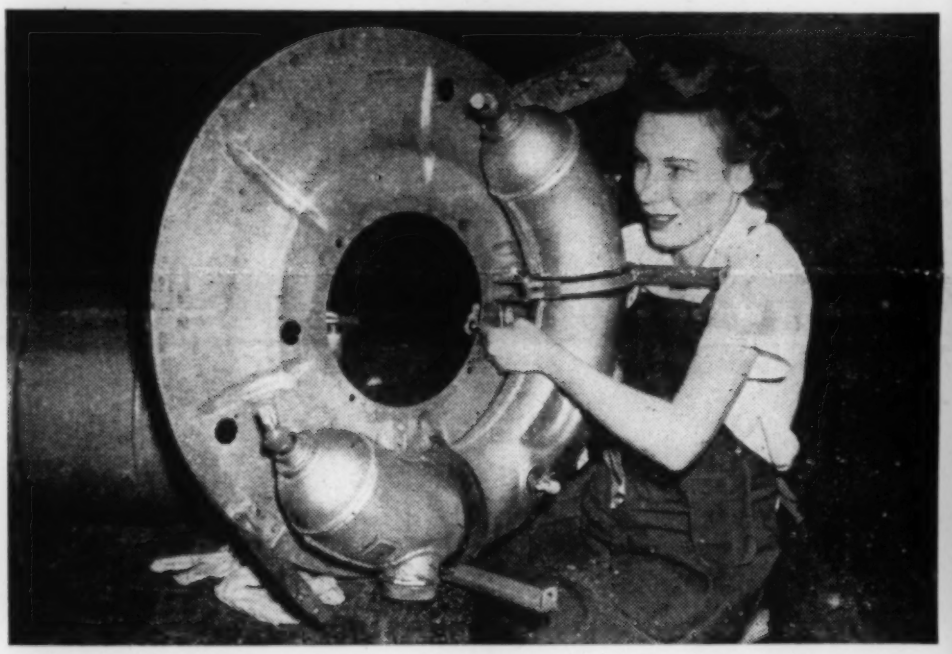
Scores of young women are now on the job at the big Army Air Force's depot at March Field, Riverside, Cal., doing repair, salvage and reclamation jobs on Army planes—jobs formerly done by men. They use welding torches, sheet metal presses, lathes, drills—all the tools of Aircraft & Engine mechanics. Experiment of using women in men's jobs started several weeks ago, when fighting fronts drained off expert men. Maj. Paul R. Blair, commanding officer of the depot, says the women are making good, helping to make America supreme in the skies.



Elizabeth Kaplan, 18, was a University of California freshman with a little automobile-driving experience. Now—see above—she pilots a tow truck on the field. Plane being moved is a P-38.



Vivienne May Harman, 20, is packing shrouds for a pilot's parachute. She rates a parachute rigger's license.



Ellen May Thomason, 18, is repairing a cowl support for a fighter plane. Government instructors gave her training.



Carmen Navarro, 25, used to work in a citrus packing plant. Now she rivets gasoline tanks for planes.

Photos by Wide World



President Rafael Calderon Guardia, hand in coat, photographed after he made speech to demonstrators against Axis last September.

Angered Costa Ricans in Riot Smash Axis-Owned Properties

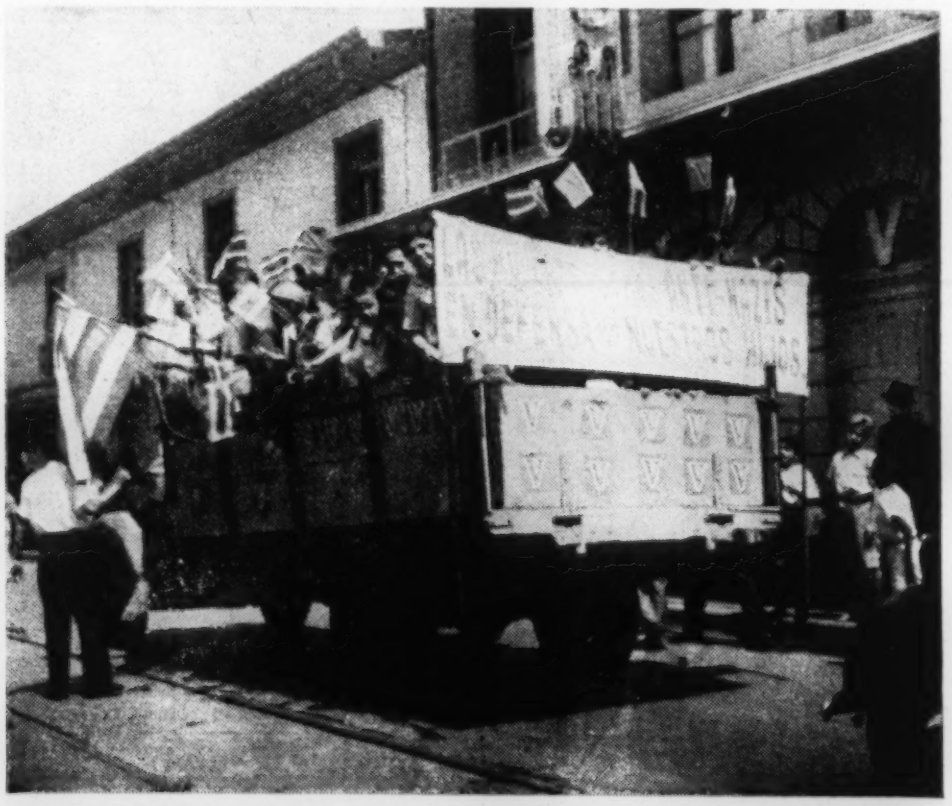
Months before Pearl Harbor the people of tiny Costa Rica, (area 23,000 square miles, population 600,000) were demonstrating against the Axis. Photos on this page, taken last September, show the anti-Fascist temper of the people. Now dispatches tell of violent public reaction to the torpedoing of the 3305-ton United Fruit freighter San Pablo at its Puerto Limon dock last week. Thousands of Costa Ricans carried out a systematic destruction of Axis-owned property over the week end, while angry crowds paraded through the streets. Today the Costa Rican Congress considers a bill to confiscate Axis funds and use them to compensate families of 23 men lost in the San Pablo sinking.



This is part of the anti-Axis parade staged last Fall. About 25 per cent of Costa Rica's trade had been with Germany, over 40 per cent with U. S. A.



Mussolini and Hitler are shown hanged in placard carried by these paraders. Government officially approved the demonstration.



Trucks decorated with anti-Axis and pro-democratic slogans were part of the parade in San Jose.

Photos by British Combine

OCCUPATIONS

AIRCRAFT - 1941

Pidgeon 12/15/41

CONFIDENTIAL

LABOR SUPPLY PROBLEMS IN AIRCRAFT MANUFACTURE

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES. REVELATION OF ITS CONTENTS IN ANY MANNER TO UNAUTHORIZED PERSONS IS PROHIBITED BY THE ESPIONAGE ACT.

Shortage of labor – Page 9
Breakdown of Jobs into Simpler Processes – P. 9
Low wage – P 10
Employment of Women – P 13
Women in Special Localities p 17 to 34
Training of Women – Pages 37, 44

FEDERAL SECURITY AGENCY
SOCIAL SECURITY BOARD
BUREAU OF EMPLOYMENT SECURITY

WASHINGTON, D. C.
SEPTEMBER 1941

Federal Security Agency
Social Security Board
Bureau of Employment Security

LABOR SUPPLY PROBLEMS

IN

AIRCRAFT MANUFACTURE

Research and Statistics Division
Washington, D. C.
September 1941

TABLE OF CONTENTS

		Page
	Summary	1
Part I	Problems of Labor Procurement and Utilization in Aircraft Manufacturing	2
Part II	The Employment Situation in the Important Centers of Aircraft Manufacturing	16
Part III	Training in the Aircraft Industry	35

Text Tables

Approximate Distribution of Government Awards for Aircraft, June 1940 to June 1941	4
Estimated Employment in Aircraft Manufacture July 1941, December 1941, and anticipated peak.	follows page 6

Appendices

		Appendix Page
I	Percentage Distribution of Anticipated Hires: Manufacture of Airengines and Propellers	1
II	Percentage Distribution of Anticipated Hires: Assembly of Aircraft	3
III	Estimated Labor Needs of Employers in Defense Industries Including Aircraft Manufacture by Selected Occupations	6
IV	Occupational Composition Study: Manufacture of Airengines	10
V	Occupational Composition Study: Assembly of Airplanes	18
VI	Important Occupations for the Manufacture of Propellers	19

FOREWORD

At the outset of the defense program, the need for rapid expansion of the labor force in the aircraft industry was scarcely less urgent than the need for enlargement of the military forces of our country. How this need has been met up to the present, and what problems the future holds, are matters of importance to those engaged in the tremendous effort now being made to rally America's manpower to advance the defense effort. Occupying a pivotal position in this endeavor, the United States Employment Service has exerted and will continue to exert every effort to recruit workers for aircraft manufacturers, as well as for other employers.

This report embodies the result of a study made by the Research and Statistics Division of the Bureau in cooperation with the employment service agencies of those States in which aircraft is manufactured. The data are largely derived from the regular and special reports compiled by the State employment security agencies. The occupational composition studies presented in the Appendix and referred to in the text were prepared by the Occupational Analysis Section of the United States Employment Service Division. Some of the material presented in Part III of the study was provided through the cooperation of the agencies engaged in furthering the National Defense Training Program; the names of these agencies appear in the text.

Some of the data presented here is confidential in character and the distribution of the report is therefore limited to officials of Governmental agencies dealing with the problem of supplying workers to the aircraft industry.

Ewan Clague, Director,
Bureau of Employment Security

SUMMARY

In the two years ending July 1941, employment in aircraft manufacture increased five-fold, to 310,000. An additional increase in employment of sixty percent is expected by December 31. Peak production of three times as many planes as were produced in July 1941 is called for by the production schedules of the defense program.

Hence the solution of labor procurement problems in aircraft manufacturing has required and will continue to require great resourcefulness. In nearly all of the occupations requiring training of more than sixty days, labor supply has fallen short of demand, and intensive training programs have been resorted to. Commonly, preemployment courses in private or public trade schools are followed by a period of in-plant training. More than half of the workers in the industry are in occupations requiring less than six months of training. The need for workers in the higher skill brackets is met partly by vigorous recruitment but chiefly, of late, by upgrading, a practice which has been accelerated by systematic job break-down and by supplementary training.

No serious delay in production has yet been caused by labor shortage, but the rate of expansion may be slackened because of scarcity of available applicants for training, particularly in Connecticut, Baltimore, Buffalo, Wichita, Tulsa, Dallas, Fort Worth, San Diego, and Los Angeles. In-migration has met the need in these centers thus far, but housing problems are faced by all of them. Shortages of key craftsmen threaten to retard expansion schedules in Portland, Omaha, Kansas City, St. Louis, Nashville, and Long Island.

Wage increases of recent months appear to have reduced the discrepancy between the hourly earnings of aircraft workers and those of comparable craftsmen in other industries. Hiring specifications are being relaxed somewhat as the labor stringency increases; however, few companies are hiring Negroes. Although very few of the occupational requirements are such as to restrict employment of women, only 2 percent of the airplane factory workers are women, according to a sample canvass conducted early in 1941.

Part I

PROBLEMS OF LABOR PROCUREMENT AND UTILIZATION IN AIRCRAFT MANUFACTURING

I. Definition of the Industry

The aircraft industry consists of three principal branches, engaged respectively in the manufacture of (1) airframes, including final assembly, (2) engines, and (3) propellers. These three manufacturing processes are typically carried on in separate plants and characterized by different occupational patterns. Separate defense contracts are awarded for airframes, engines, and propellers, as well as for auxiliary equipment such as instruments, landing gears, radio, and armament. All three principal branches of the industry are fed by a complex network of subcontractors and suppliers of parts and raw materials. For the purpose of this discussion, however, the industry will be defined to include only the three principal branches, and the airframe branch is understood to include the assembly of the finished aeroplane, as well as the manufacture of the airframe.[1]

II. Growth of the Industry

From an infant industry employing about 12,000 workers and producing annually about 1,350 planes (mostly commercial) in 1935, the aircraft industry, stimulated first by foreign military orders and more recently by American defense contracts, has grown phenomenally. In 1939, production reach 6,100. Current output exceeds 1,400 planes per month, produced by approximately 310,000 workers in the three principal branches of the industry. Total employment, including parts manufacturing, may be as much as 400,000. Employment currently is estimated at more than twice the level of a year ago; it has been increasing five or six percent each month during 1941.

III. Defense Contracts

About $12 billion have been allocated for aircraft (both United States and British commitments) out of total authorized defense expenditures of nearly $51 billion. Over $5 billion in United States contracts and perhaps $1.5 billion in British contracts have been awarded.

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[1] The term "assembly of airplanes" as used in this report includes, in general, all of the airframe industry save the fabrication of the parts which go into the sections of the airframe. See definition in Appendix V

Only a fraction of the output contracted for has already been delivered. The current backlog of orders is estimated at nearly $4.3 billion. The production schedule under present contracts calls for deliveries of about 18,000 planes during 1941 and 30,000 during 1942. A peak rate of production three times the current rate, in number of planes, is called for by the defense program. While a large part of the current production is for training planes, the future production will include many more pursuit ships and bombers.

During the year ending June 30, the output of military airplanes was 11,647, with monthly production as follows:

1940		1941	
July	547	January	1,036
August	586	February	972
September	670	March	1,216
October	742	April	1,389
November	779	May	1,334
December	900	June	1,476
Total	4,224		7,423

The slackening in the rate of increase is perhaps more apparent than real. In July 1941, only 1,460 airplanes were produced, but bombers and pursuit planes may constitute a larger proportion than in March 1941. The necessity for secrecy in this regard prohibits the release of data which would confirm or disprove this hypothesis.

IV. Location of the Industry

A large and important part of the airframe industry is concentrated in the hands of a few leading companies which pioneered in the manufacture of commercial aircraft, particularly in southern California. Among the most important California plants are those of Douglas, Lockheed, Vultee, and North American at Los Angeles, and Consolidated Aircraft at San Diego. The principal Boeing plants are at Seattle. Since the outbreak of the war, the industry has expanded tremendously in the East, with important plants of Glenn L. Martin in Baltimore; Curtiss-Wright and Bell in Buffalo; and Brewster, Grumman, Republic and Vought-Sikorsky (a subsidiary of United Aircraft) in the area bordering Long Island Sound.

Almost without exception, these plants have been greatly enlarged since the initiation of the American defense program. In addition, a vast program of expansion is in progress in the mid-continent area, from Texas to Nebraska, which will make that section a principal source of bombers. Even before the war, there was a minor concentration of small aircraft companies in Wichita, Kansas; now almost all major producers of bombers are building plants or will operate Government-built plants

APPROXIMATE DISTRIBUTION OF UNITED STATES GOVERNMENT AWARDS FOR AIRFRAMES, ENGINES AND PROPELLERS FROM JUNE 1, 1940 TO JUNE 25, 1941.1/

(In millions)

Total United States	$5,350
West Coast - Total	1,980
Consolidated Aircraft Corp.	545
Douglas Aircraft Co. Inc.	400
North American Aviation Inc.	210
Vultee Aircraft Inc.	130
Lockheed Aircraft Corp.2/	330
Boeing Aircraft Co.	328
All other	37
East Coast - Total	1,520
United Aircraft Corp.	450
Brewster Aeronautical Corp.	110
Glenn L. Martin Co.	395
Curtiss-Wright Corp.	3/ 350
All Others	215
Great Lakes Region - Total	1,235
General Motors Corp. (Allison Div.)	190
Packard Motor Co.	165
Ford Motor Co.	120
Curtiss-Wright Corp.	3/ 500
All Others	260
Mid-Continent - Total	615
Consolidated Aircraft Corp. (Ft. Worth, Texas)	165
Douglas Aircraft Co. Inc. (Tulsa, Oklahoma)	160
Curtiss-Wright Corp.	3/ 150
All Others	140

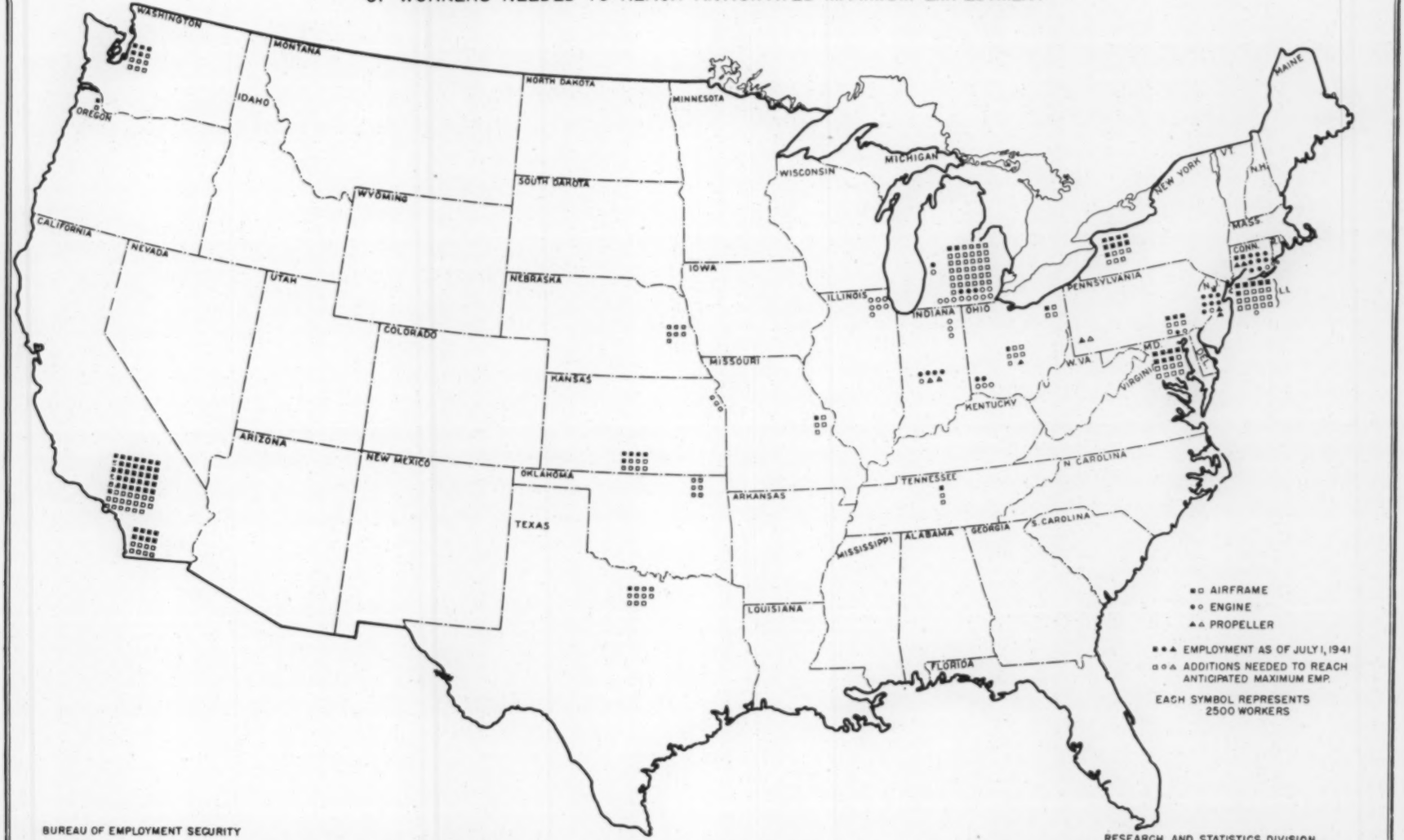
1/ Source: O.P.M. monthly summary of contracts. Current backlogs (June) estimated at $4.6 billion including British contracts of $500 million.

2/ Includes Vega Airplane Co.

3/ Distribution of Curtiss-Wright contracts by areas is estimated; the error may be large in the area figures, but not in the total (one billion dollars)

AIRCRAFT INDUSTRY

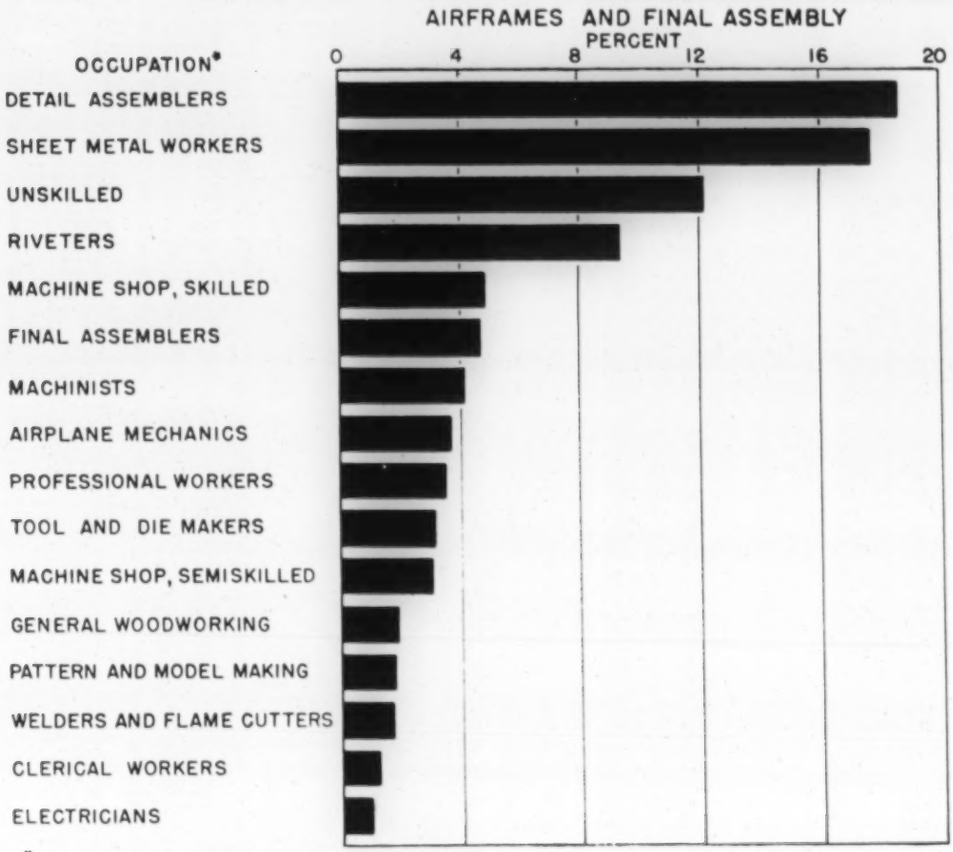
EMPLOYMENT IN PRIMARY BRANCHES AS OF JULY 1, 1941 AND NUMBER OF WORKERS NEEDED TO REACH ANTICIPATED MAXIMUM EMPLOYMENT



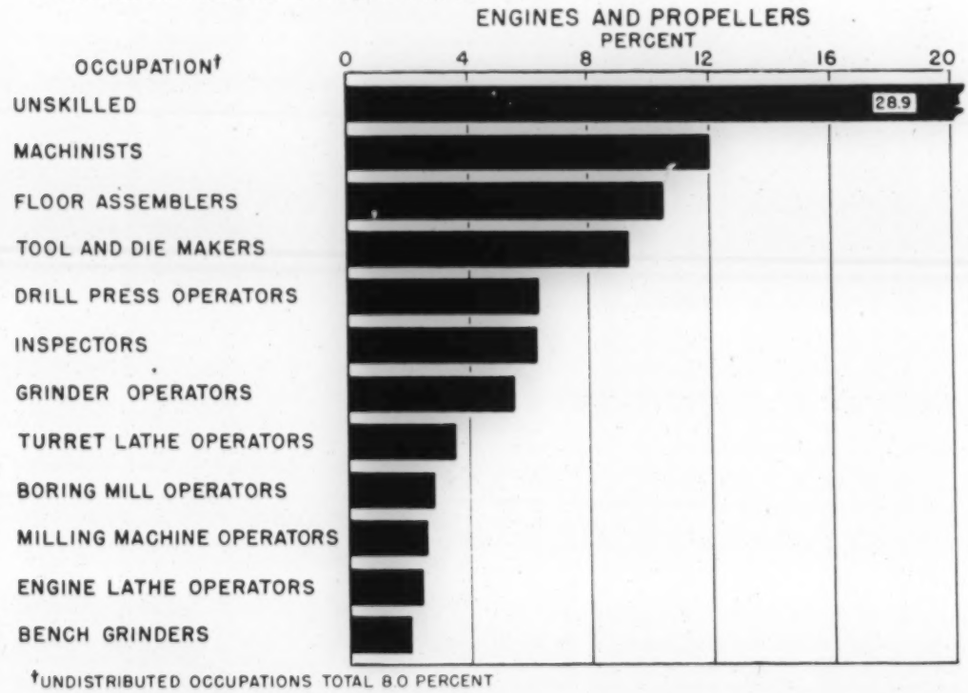
BUREAU OF EMPLOYMENT SECURITY

RESEARCH AND STATISTICS DIVISION

ANTICIPATED HIRES OF SELECTED AIRCRAFT MANUFACTURERS BY OCCUPATION, MAY TO OCTOBER 1941



*UNDISTRIBUTED OCCUPATIONS TOTAL 7.6 PERCENT



†UNDISTRIBUTED OCCUPATIONS TOTAL 8.0 PERCENT

BUREAU OF EMPLOYMENT SECURITY

RESEARCH AND STATISTICS DIVISION

in the mid-continent: Boeing in Wichita, Curtiss-Wright in Columbus, Ohio, and St. Louis; Martin in Omaha, North American in Kansas City and Dallas; Douglas in Tulsa; Consolidated in Fort Worth; and Vultee in Nashville. Many of these will assemble parts manufactured elsewhere by other producers: for example, the Martin plant in Omaha will be supplied by subassemblies and parts made by Hudson and Chrysler; the North American plants in Kansas City and Dallas will be supplied by General Motors; the plants in Tulsa and Fort Worth by a Ford plant, which will also assemble complete planes.

The leading producers of airengines in the past, the Pratt and Whitney Division of United Aircraft in Hartford, and Wright Aeronautical (a subsidiary of Curtiss-Wright) in Paterson, New Jersey, have greatly expanded their capacity for the production of radial air-cooled engines. In addition, new plants of enormous capacity are being erected by Wright Aeronautical in Cincinnati, by Ford in Detroit, by Buick in Chicago, and by Studebaker in Chicago, South Bend, and Fort Wayne. Liquid-cooled engines, now being supplied chiefly by the Allison Engineering Division of General Motors in Indianapolis, will be manufactured also by Packard in a new plant in Detroit.

The production of propellers, a serious bottleneck at present, has been concentrated in the plants of the Hamilton Standard Propeller Division of United Aircraft in Connecticut and of Curtiss-Wright in New Jersey. Their output will soon be augmented by that of new Curtiss-Wright plants in Beaver, Pennsylvania, and Indianapolis, and two enlarged plants of Aeroproducts (General Motors) in Dayton.

Defense contracts in the industry, in general, follow the same geographical pattern. West Coast companies have received contracts for nearly $2,000 million. The East Coast plants, from Connecticut to Maryland, hold contracts for $1,520 million. In the Great Lakes area, from Buffalo to Chicago, are plants holding contracts for $1,235 million, while the new plants in the mid-continent have orders totaling $615 million. The principal contractors are listed on page four, with the approximate total of contracts awarded to each, up to June 1941.

The shift toward the interior, which will result from the expansion now occurring, can be illustrated by showing approximate present as compared with estimated peak employment:

	Employment, July 1941	Anticipated Peak Employment
Eastern States	121,500	221,750
Pacific Coast States	125,000	215,000
Interior areas	63,350	332,300

In the interior areas, reaching from Michigan to Texas, and from Nebraska to Tennessee, employment is expected to increase over

400 percent, as compared with a 75 percent increase of employment in the West Coast and Eastern States.

V. Occupational Patterns

In the aircraft industry, occupational patterns have been subject to rapid change, due chiefly to the enormous increase in output, which has made possible the adoption of mass-production techniques to an extent that was hardly imagined, until a year ago. Scarcity of highly skilled workers has forced management to utilize the skill of key craftsmen to the utmost: job breakdown and upgrading have proceeded at an ever-accelerated rate.

Sharp distinctions between the various degrees of occupational competence (or "skill") are disappearing even more rapidly in this industry than in others. It is still possible to distinguish between the highly trained and broadly competent worker and the worker who merely must follow explicit instructions in the performance of simple tasks. But between these extremes, many degrees of competence are called for by the various occupations. While the terms "skilled", "semiskilled", and "unskilled" are sometimes used in this study for brevity's sake, the changing complexion of the occupations in the industry makes it increasingly difficult to establish and apply criteria for their allocation to the three traditional groups.

Perhaps the most practical basis for grouping of occupations is in terms of the time it normally takes for a physically and mentally suited, but untrained, person to reach normal productive capacity, requiring only the normal amount of supervision. This basis has been used in the tabulation of occupations in this study. In the Appendix, these data are presented for all but a few occupations in the three main branches, with percentage distribution of occupations for assembly and engine-making. (Such distribution is not available for propeller-making). In summary form, the pattern is as follows:

Workers employed in occupations in two branches of aircraft manufacture, stated as a percentage of the total workers employed in each branch.

Training-Grade	Assembly	Engine Manufacture
E: less than 2 months	29.11%	29.47%
D: 2 months to 6 months	24.06	30.81
C: 6 months to 1 year	1.33	9.35
B: 1 year to 2 years	21.13	9.57
A: More than 2 years	8.16	7.13
Total	83.79	86.33

Under pressure of urgency, the training period is being shortened for many of these occupations, so that the estimates probably overstate the time currently required to train workers for the industry. They are based on data obtained from a study conducted in the spring of 1941 in the plants of five large companies.

The remainder of the personnel (16.21 percent in assembly and 13.67 percent in engine manufacture) are in clerical, maintenance, engineering, supervisory and administrative positions, and in a few occupations for which no estimate of training period has yet been made.

It is worth noting that well over half of the employees in each branch are in occupations normally requiring no more than six months of training. Under present conditions of stringency, it is more than probable that this proportion is considerably larger and that the proportion of those in occupations requiring more than two years of training may be less than the seven or eight percent indicated above. The small number of workers falling in group C exemplifies the thoroughness of the job-breakdown process: it has all but eliminated medium-skill tasks.

VI. Labor Demand and Shortage

Demand

Employment in the aircraft industry as of July 1, 1941, is estimated at approximately 310,000, including assembled airframes, engines, and propellers. It is estimated that these branches of the industry will hire approximately 188,000 workers during the last half of 1941, and about 272,000 more in 1942, to staff existing and projected plants. The present and anticipated employment in principal aircraft plants is shown in the accompanying table.

Many of the present plants are already operating on two or even three shifts, and their capacity to absorb additional workers is limited accordingly. In May 1941, three-fourths of the production workers in the airframe industry and 90 percent of those in the manufacture of engines and propellers were in plants operating three shifts.[1] Three-fifths of the airframe industry was operating on a 6-day week, and one-sixth on a 7-day week. The average working hours were 45.5 per week in the airframe industry, and 51.5 in the engine and propeller industries.[2] The demand for additional workers in the industry, therefore,

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[1] According to information supplied by the Bureau of Labor Statistics. It should be noted that many of these plants were not operating three full shifts. Plants frequently operate a full first shift, a smaller second shift, and a still smaller third shift.

[2] Information on days and hours per week supplied by the Bureau of Labor Statistics.

Aircraft Manufacturing Industry 1/

Estimated employment July 1 and Dec. 31, 1941, and anticipated maximum employment, in total by States and in detail for large plants

Location	Company	Major products	Estimated employment as of July 1, 1941 2/	Estimated additions to employment July 1, 1941 to Dec. 31, 1941 2/	Estimated employment as of Dec. 31, 1941 2/	Anticipated maximum employment	
						Date	Number 2/
North Atlantic Area			121,495	52,894	174,389		221,754
Connecticut			28,801	7,687	36,488		37,048
East Hartford	United Aircraft Corp. (Pratt & Whitney) (Hamilton Standard)	Engines, propellers	22,984	7,360	30,344	January 1942	30,344
Pawcatuck	United Aircraft Corp. (Hamilton Standard)	Propellers	600	100	700		4/ 1,260
Stratford	United Aircraft Corp. (Vought-Sikorsky)	Pursuits, bombers	5,217	227	5,444	January 1942	5,444
New York			38,069	23,669	61,738		89,238
Buffalo	Bell Aircraft Corp.	Pursuits	9,000	4,000	13,000	January 1942	13,000
Buffalo	Curtiss Aeroplane Co.	Pursuits, bombers	13,000	7,000	20,000		4/ 24,000
Long Island City	Brewster Aeronautical Corp.	Pursuits, bombers	5,500	1,500	7,000		4/ 9,000
Bethpage	Grumman Aircraft Engineering Corp.	Pursuits, bombers	4,300	4,000	8,300		4/ 18,300
Farmingdale	Republic Aviation Corp.	Pursuits, trainers	4,240	5,760	10,000		4/ 20,100
Farmingdale	Fairchild Engine & Airplane Corp.	Engines	795	805	1,600		4/ 3,000
	All other (3)	Airframe subassemblies	1,234	604	1,838	January 1942	1,838
New Jersey			25,400	1,375	26,775		29,475
Paterson	Wright Aeronautical Corp.	Engines	17,200	600	17,800	Spring 1942	20,500
Trenton	Luscombe Airplane Corp.	Trainers	225	0	225	January 1942	225
Newark	Brewster Aeronautical Corp.	Pursuits	2,100	600	2,700	January 1942	2,700
Clifton and Caldwell	Curtiss Wright Corp.	Propellers	5,875	175	6,050	January 1942	6,050
Pennsylvania			10,205	14,663	24,868		24,868
Johnsville	Brewster Aeronautical Corp.	Pursuits	0	4,700	4,700	January 1942	4,700
Beaver	Curtiss Wright Corp.	Propellers	1,050	2,950	4,000	January 1942	4,000
Bristol	Fleetwings, Inc.	Airframe subassemblies	1,500	2,250	3,750	January 1942	3,750
Pottstown	Jacobs Aircraft Engine Co.	Engines	800	1,175	1,975	January 1942	1,975
Williamsport	Lycoming (Div. Aviation Mfg.)	Engines	2,050	450	2,500	January 1942	2,500
Philadelphia	Bendix Aviation Corp.	Airframe subassemblies	3,000	3,000	6,000	January 1942	6,000
Lock Haven	Piper Aircraft Corp.	Trainers	1,250	0	1,250	January 1942	1,250
	All other (2)	Autogiros	555	138	693	January 1942	693
Maryland			18,645	4,800	23,445		40,050
Baltimore	Glenn L. Martin Co.	Bombers	17,145	3,600	20,745	May 1942	37,350
Hagerstown	Fairchild Engine & Airplane Corp.	Trainers	1,500	1,200	2,700	January 1942	2,700
Delaware			375	700	1,075		1,075
New Castle	Bellanca Aircraft Co.	Trainers	375	700	1,075	January 1942	1,075
Middle West Area			63,354	95,585	158,939		332,276
Michigan			17,331	43,208	60,539		131,016
Detroit	Packard Motor Co.	Engines	5,000	12,600	17,600	January 1942	17,600
Detroit	Ford Motor Co.	Engines	2,000	8,000	10,000	January 1942	10,000
Detroit	Briggs Mfg. Co.	Bomber subassemblies	1,500	1,500	3,000	March 1942	10,000
Detroit	Chrysler Corp.	Bomber subassemblies	1,500	5,500	7,000	July 1942	15,000
Detroit	Murray Corp.	Bomber subassemblies	1,000	5,000	6,000	February 1942	7,000
Detroit	General Motors Corp.	Bomber subassemblies	0	5,000	5,000	July 1942	12,500
Detroit	Continental Motors	Engines	1,500	1,500	3,000	February 1942	4,322
Detroit	Republic Aircraft Products	Engine parts	653	782	1,435	January 1942	1,553
Detroit	Vultee Aircraft, Inc. (Stinson)	Trainers	923	240	1,163	February 1942	1,200
Ypsilanti	Ford Motor Co.	Bombers	0	0	0	September 1942	45,000
Grand Rapids	Hayes Mfg. Co.	Bomber subassemblies	1,000	1,000	2,000	March 1942	2,500
Muskegon	Continental Motors	Engines	2,000	2,000	4,000	January 1942	4,000
	All other (2)	Engines, subassemblies	255	86	341	January 1942	341
Ohio			12,041	12,071	24,112		42,437
Akron	Goodyear Aircraft Corp.	Bomber subassemblies	1,582	4,418	6,000	June 1942	11,000
Cincinnati	Wright Aeronautical Corp.	Engines	4,000	5,000	9,000	July 1942	12,000
Columbus	Curtiss Wright Corp.	Bombers	1,600	1,575	3,175	Fall 1942	13,500
Vandalia	Aeroproducts (Div. G. M. Corp.)	Propellers	2,647	792	3,439	January 1942	3,439
	All other (6)	Trainers, subassemblies	2,212	286	2,498	January 1942	2,498

See footnotes at end of table.

Location	Company	Major products	Estimated employment as of July 1, 1941 2/	Estimated additions to employment July 1, 1941 to Dec. 31, 1941 2/	Estimated employment as of Dec. 31, 1941 2/	Anticipated maximum employment	
						Date	Number 2/
Middle West Area (Cont'd)							
Indiana			11,690	6,910	18,600		23,000
Indianapolis	Curtiss Wright Corp.	Propellers	190	3,810	4,000	January 1942	4,000
Indianapolis	Allison Engineering Co.	Engines	11,500	2,100	13,600	January 1942	13,600
South Bend	Studebaker Corp.	Engines	0	1,000	1,000	Fall 1942	4,000
Fort Wayne	Studebaker Corp.	Engines	0	0	0	Fall 1942	1,400
Illinois			130	6,000	6,130		18,105
Chicago	Buick--Div. Gen. Motors	Engines	25	5,000	6,025	December 1942	14,000
Chicago	Studebaker Corp.	Engines	0	0	0	Fall 1942	4,000
Chicago	Howard Aircraft Corp.	Airframe subassemblies	105	0	105	January 1942	105
Tennessee			2,400	4,600	7,000		7,000
Nashville	Vultee Aircraft, Inc.	Trainers	2,400	4,600	7,000	September 1941	7,000
Kansas			12,841	5,351	18,192		30,192
Wichita	Boeing Aircraft Co. (Stearman)	Bombers, trainers	5,500	1,800	7,300	Summer 1942	19,300
Wichita	Beech Aircraft Corp.	Trainers	4,246	1,951	6,197	January 1942	6,197
Wichita	Cessna Aircraft Co.	Trainers	2,600	1,300	3,900	January 1942	3,900
Wichita	All other (4)	Airframe subassemblies	495	300	795	January 1942	795
Missouri			3,519	9,305	12,824		20,654
St. Louis	Curtiss Wright Corp.	Trainers, cargo	3,184	5,286	8,470	February 1942	12,000
Kansas City	North American Aviation, Inc.	Bombers	0	4,000	4,000	July 1942	8,300
	All other (2)	Trainers	335	19	354	January 1942	354
Oklahoma			180	1,168	1,348		15,348
Tulsa	Douglas Aircraft Co., Inc.	Bombers	0	1,000	1,000	December 1942	15,000
Tulsa	Spartan Aircraft Co.	Trainers	180	168	348	January 1942	348
Texas			2,900	6,770	9,670		27,000
Dallas	North American Aviation, Inc.	Bombers	2,900	6,770	9,570	July 1942	12,000
Fort Worth	Consolidated Aircraft Corp.	Bombers	0	0	0	December 1942	15,000
Colorado			322	202	524		524
Colorado Springs	Aircraft Mechanics, Inc.	Airframe subassemblies	322	202	524	January 1942	524
Nebraska			0	0	0		17,000
Omaha	Glenn L. Martin Co.	Bombers	0	0	0		4/ 17,000
Pacific Coast Area			125,092	39,579	164,671		215,478
			12,000	7,250	19,250		30,500
Washington			12,000	7,250	19,250		4/ 30,500
Seattle	Boeing Aircraft Co.	Bombers					
Oregon			1,600	600	2,200		4,500
Portland	Columbia Aircraft Ind.	Trainers	1,500	600	2,200	August 1942	4,500
California			111,492	31,729	143,221		180,478
Los Angeles	Lockheed Aircraft Corp. 3/	Bombers, pursuits	39,770	9,270	49,040	February 1942	50,000
Los Angeles	Douglas Aircraft Co. Inc.	Bombers	27,876	5,000	32,876	April 1942	48,000
Los Angeles	North American Aviation, Inc.	Bombers, trainers	11,250	375	11,625	Fall 1942	18,000
Los Angeles	Northrup Aircraft, Inc.	Bombers, pursuits	2,234	400	2,634	Fall 1942	5,000
Los Angeles	Vultee Aircraft, Inc.	Bombers, trainers	7,390	915	8,305	Fall 1942	10,800
Los Angeles	Freeman Aircraft Co.	Trainers	0	0	0	Fall 1942	5,000
Los Angeles	Consolidated Aircraft Corp.	Bombers	17,393	12,670	30,063	Summer 1942	35,000
San Diego	Ryan Aeronautical Co.	Trainers	1,875	606	2,481	January 1942	2,481
San Diego	All other (7)	Trainers, engines	3,704	2,493	6,197	January 1942	6,197
TOTAL UNITED STATES			309,941	188,058	497,999		769,508

1/ Includes manufacturers of airframes, and major sections or subassemblies, engines and propellers, but not parts manufacturers.
2/ Source: Labor Market Surveys, ES-270 and ES-274 Reports of Bureau of Employment Security.
3/ Includes Vega Airplane Company.
4/ No information available as to the date of maximum employment.

Bureau of Employment Security
Research and Statistics Division
Aug. 4, 1941

will derive principally from plant expansion or plants being built.

In the airframe branch the demand for workers of high skill will be concentrated in such occupations as machinists (4.1 percent of the total demand); tool and die makers (3.1 percent); skilled machine tool operators (4.9 percent); sheet-metal workers (17.7 percent); and airplane mechanics (3.7 percent). The principal occupations in which workers of unit skills will be needed include assemblers (23.3 percent) and riveters (9.4 percent). (See appendix tables IV and V).

Machinists (12.0 percent), tool and die makers (9.3 percent), and machine-tool operators (26.1 percent) account for a large part of the anticipated hirings in the engine and propeller plants.

Appendices I and II present percentage distribution of anticipated hires, May-October 1941, by occupations, for selected employers in the several branches of the industry. Appendix III presents estimated needs of all defense industries for workers in occupations found in aircraft manufacture, July-December 1941. The terminology of the Occupational Dictionary is followed, and a large proportion of the workers needed accordingly fall in the skilled and semiskilled classifications. In considering these data, weight must be given to the factors discussed in the preceding section on occupational patterns. Thus it will be evident that the terms "skilled" and "semiskilled" need careful interpretation, and also, that most of these "hires" will prove not to be hires at all; the openings will be filled by upgrading. On the other hand, the hiring of "unskilled" will greatly exceed the proportion indicated: of necessity, inexperienced workers will be inducted into the plants and placed, after a training-period, upon many of the unit-skill jobs.

Shortages

Throughout the country, the present labor supply in occupations found in the aircraft industry is very limited. Because of the rapid growth of the airframe industry from small beginnings there has never been any considerable reserve of workers in the occupations peculiar to this industry. On the other hand, all branches of the aircraft industry draw on limited reserves of skilled metal workers who are greatly in demand by many other industries. As a consequence, shortages have prevailed in almost all of the important occupations in aircraft manufacturing for many months. In addition to the shortages of machinists, tool- and die-makers, jig and fixture builders, and skilled machine-tool operators, which are confronting all of the metal working industries, the aircraft industry has been faced with shortages in such specialized key occupations as aeronautical engineers, airplane inspectors, airplane electricians, final assemblers, riveters, sheet-metal workers, airplane woodworkers, and frame builders of various kinds.

While a majority of companies have indicated that employment could be increased somewhat if skilled workers and (more especially) supervisors were available for the later shifts, the industry on the whole has been adding workers as rapidly as plant and the deliveries of machinery and materials would permit. The industry, it is true, has had to adapt its processes to use large numbers of inexperienced workers, and production has undoubtedly suffered while new equipment was being installed and new workers absorbed and integrated into the production process. Although individual plants have been temporarily handicapped from time to time by shortages in certain key skilled occupations, no instance has been reported of serious delay in production because of lack of labor. Shortages have been circumvented by aggressive methods of recruitment and a program of wholesale training.

VII. Problems of Recruitment

In the early stages of the expansion of the aircraft industry it was still possible to recruit limited numbers of skilled metal workers from among the ranks of the unemployed. Such reserves as there were quickly became exhausted as the aircraft manufacturers, in competition with the machine-tool industry, shipbuilding, and others, expanded their employment. The industry's requirements for skilled metal workers have been met in two ways: by upgrading within the plants, and by hiring workers already employed in other industries.

The aircraft industry has undertaken a program of upgrading, designed to promote competent semiskilled workers to perform skilled jobs. At the same time, the more complex jobs have been broken down, as rapidly as technology would permit, into simpler elements in order to permit the employment of unit-skilled workers with relatively little experience. However, because of the rapid expansion of the industry, these methods of dealing with shortages have apparently not sufficed to meet the growing needs. Consequently, the leading aircraft companies have had recruiting agents scouring the country for skilled workers already employed but willing to transfer. Lockheed and Consolidated on the West Coast, for instance, have combed the Middle West and the Northeast for machinists, tool makers, and skilled machine-tool operators. The recruiting devices used in the industry have included advertising, solicitations by mail and even in a few cases, direct solicitations of workers at the gates of other plants.

In the case of Lockheed, an effort has been made to conduct this labor scouting in a somewhat more systematic and orderly fashion. The company, after advertising extensively throughout the Middle West and Northeast, found itself with some 40,000 replies on its hands. After rejecting 30,000 of these by inspection, the company requested formal applications from the remainder. Some 7,500 applications were obtained in this way. Thereafter, arrangements were made with the United States Employment Service to have applicants interviewed and tested at local employment offices throughout the country and referred

to Lockheed on the basis of interviews and tests results. More recently similar plans have been followed by other companies.

In other cases the companies have been satisfied to turn over to the employment service the responsibility for recruiting skilled workers in distant communities through the clearance machinery. In an attempt to meet these demands the employment service itself, faced with shortages of unemployed available workers in these skilled occupations, has resorted to advertising to recruit the necessary workers. Even so, the employment offices have been able to fill only a fraction of the orders for skilled metal workers placed with them by aircraft companies in the open market.

In attempting to recruit skilled workers, both the airframe manufacturers and the employment service have at times been handicapped by the relatively low wages paid in the aircraft industry. While some of the companies have been willing to raise their offered wages almost without limit to obtain key skilled workers, the wages paid in the airframe industry have not generally been comparable to the wages offered for similar work in other industries. This was particularly apparent when the airframe industry, concentrated in southern California where wages have been relatively low, attempted to recruit skilled metal workers from the high wage areas of the North and East. The necessary upward adjustment in wage rates is being made rather generally at the present time.1/

In the recruitment of the semiskilled workers, both the airframe and engine branches of the industry have resorted to the hiring of inexperienced trainees on an enormous scale. The defense training courses in many parts of the country have supplied thousands upon thousands of young men trained in sheet-metal work and riveting. In other cases the manufacturers themselves have hired untrained, inexperienced workers and have trained them in the plants.

The rapid growth of the airframe companies has been achieved largely by the combination of job breakdown, upgrading, and rapid absorption of inexperienced workers. The companies in southern California, particularly, have been fed by a steady stream of migrants from the Pacific Northwest, from the Rocky Mountain and North Central regions, and from the Gulf Coast and Southwestern States. It is estimated, for example, that 85,000 persons have migrated to Los Angeles since last August, including 11,000 experienced metal workers and 40,000 inexperienced men looking for work in the aircraft industry. More than 50,000 are estimated to have found jobs. Similarly, of an estimated 12,000 who have migrated to San Diego since last summer, 9,000 have been hired or are in training for aircraft work.

1/ Recent wage increases have rendered out-of-date some of the wage data presented in Part II of this report, if press accounts are trustworthy.

In some areas, especially in sourthern California and Wichita where the process of importation and training has been going on for a long time it is becoming increasingly difficult to recruit suitable trainees in adequate numbers. In several instances it has been reported that this difficulty arises partly from the inability of trainees to maintain themselves for the two or three months of training. Several proposals have been made to pay subsistence allowances to trainees in order to tap unused reserves. It has been proposed in other cases to transfer present training facilities to the communities in which these reserves may be found and to train workers in their own home communities preparatory to their migration to the site of the jobs.

In an attempt to avoid increasing concentrations of manufacturing and jobs in the established aircraft centers, and for strategic reasons, the new airframe assembly plants have been located principally in the Middle West. Typically each of the new assembly plants, under the management of an experienced company, expects to draw a nucleus of workers from the plants of parent companies and to build around these a staff recruited largely from inexperienced workers available in and around the community. In many cases extensive training courses are being established while the new plants are still under construction, and plans are being made to train enough workers in the specific occupations required for assembly operations. In some cities it is expected that a sufficient supply of workers meeting the employers' specifications will be found within the community or within commuting distance. In others, it is expected that thousands of persons will have to migrate to the site of the plant in order to augment the local supply. In either case, the establishment of the new plants in relatively unexploited, nonindustrial areas, while complicating the problem of providing highly skilled labor and management, will simplify the recruitment of learners and minimize problems (such as housing, transportation and the provision of community facilities) which have arisen where enormous numbers of people have migrated to centers of defense activity.

The airengine branch of the industry has been confronted with similar problems. Like the airframe industry it was quickly faced with shortages of skilled workers and resorted to upgrading on a large scale. Like the airframe plants also, engine plants, such as Wright Aeronautical at Paterson, early arranged with the public training authorities for the quick training of unit-skilled machine operators to meet the rapidly expanding labor requirements. Because of its smaller size, the engine branch of the industry has not found it necessary to resort to scouting for unemployed workers on the same scale as the airframe branch.

Because of the advantage of having access to a substantial supply of skilled workers, the new plants in the airengine industry

have been established in centers noted for their precision metal working industry. The huge new engine plant of Wright Aeronautical in Cincinnati, for example, expects to recruit its skilled workers in that community. The Packard and Ford plants in Michigan, Buick in Chicago, and the Studebaker plants in Chicago, South Bend, and Fort Wayne will attempt to draw on the labor of these communities. The close connection between these engine plants and their parent automobile manufacturing companies has made it possible to plan to transfer a nucleus of skilled workers from the automobile plants to the new airengine plants. Each of the companies mentioned above plans to begin the staffing of its new operations in this way.

In summary, it can be said that the centers of production in which present labor supply of all types falls short of meeting the anticipated hirings during the remainder of 1941 are: Connecticut, Baltimore, Buffalo-Niagara Falls, Wichita, Dallas-Fort Worth, San Diego and Los Angeles. If the present rate of in-migration to all of these centers continues through 1941, it is possible that most of them will escape shortages of labor suitable for training, but the problems resulting from in-migration, particularly housing, may be critical in all of these centers.

Other centers likely to face shortages of labor during 1942 are Seattle, Akron, Columbus and (depending on the extent of curtailment of auto production) Detroit.

In certain other areas shortages of more highly skilled men threaten to impede scheduled expansion: Long Island, Nashville, St. Louis, Omaha, Kansas City and Portland, Oregon. Cincinnati and Indianapolis may also fall in this group, although it is possible that the attractive wage-rates in the aircraft plants may draw skilled men from other local industries, thus transferring the labor stringency problem to the latter.

VIII. Hiring Specifications

Skilled workers.--As the supply of skilled workers has dwindled, the industry generally has abandoned rigid requirements as to training, experience, age, and physical conditions. Workers who demonstrate ability to perform the duties of the job or who can be readily retrained, are likely to be acceptable regardless of age or minor physical defects.

Semiskilled and unskilled workers.--In hiring persons in the lower grades of semiskilled and unskilled jobs, aircraft manufacturers generally have established broad selective standards aimed at weeding out applicants least likely to adjust to the work of the industry. Minimum and maximum age limits (commonly ranging from 21 to 35 years) have been established in the hiring of trainees and other inexperienced

workers. Frequently aptitude and personality tests are given, in order to select those with a high degree of dexterity and to exclude those who are found to be temperamentally unfit. Physical standards are fairly rigid: applicants are frequently required to pass strict physical examinations, and are sometimes selected for physiques adapted to light manipulative work or heavy work, as the case may be.

Negroes.—With the exception of Ford, employers in the aircraft industry have in the past quite generally excluded Negroes from jobs in all skilled and in most semiskilled occupations. It is reported that a limited number of Negroes are being trained for employment at Curtiss-Wright plants in Buffalo and Cincinnati, and in the Grumman and Republic plants on Long Island. But in most plants Negroes are either excluded entirely or confined to service, maintenance, laboring or foundry jobs. Pressure is currently being brought to bear on certain of the aircraft companies to open opportunities to Negroes in accordance with the announced policy of the administration and of the Office of Production Management.

Aliens and foreign-born.—Because the acts of Congress appropriating funds for military aircraft have forbidden the employment of aliens except with the specific approval of the War and Navy Departments, aliens are almost universally barred from employment in the aircraft industry. Furthermore, the exclusions extend in many cases to naturalized citizens, and even to American-born citizens of German and Italian extraction. The concern of the FBI and of Army and Navy inspectors that the employment of persons of foreign birth may lead to sabotage has caused manufacturers to be extremely wary of persons not American-born.

Women.—Few of the jobs in aircraft plants are of such a nature as to prohibit employing women upon them. Among the list of important occupations in assembling airplanes given in the appendix, none is closed to women on physiological grounds. In the manufacture of propellers, scarcely a dozen occupations are deemed too heavy or otherwise too severe to allow for the possibility of employing women in them, for example, cyanide-furnace operator, hammersmith, drop-forge heater. In airengine manufacture, such occupations are likewise few in number.

Nevertheless, women constituted only 2 percent of the total number of workers employed in the airengine plants of five companies surveyed by the Occupational Analysis Section of the United States Employment Service in the spring of 1941. Three-fourths of these were inspectors or checkers, most of them being checkers of purchased parts. The only other occupations having women in any considerable number were: machine etcher, packer (stores department) and charwoman.

Many occupations in the aircraft industry require only manual dexterity and thoroughness,—for example, semiskilled machine operation,

much of the assembly work, and testing and inspection of many kinds. Women could well be employed in these. It appears that Lockheed is pioneering in this direction, with a new plant equipped to employ 4,000 to 6,000 women. A similar program is announced by Consolidated. Vultee also is reported to employ 400 women on light assembly and machine operations; other plants are beginning to employ women in electrical work and light assembly. But it is still true, generally, that women are being sparingly employed in a few occupations only, and that training courses are likewise closed to women despite the difficulty of recruiting qualified male trainees in a number of centers.

IX. Special Problems and Trends

1. Shortage of skilled workers.--In the absence of any available reserves of skilled workers, the industry will be able to obtain the skilled labor it needs primarily in two ways: (a) It will be necessary to determine, by a systematic canvass, plant by plant, the possibility of job breakdown and upgrading and to reduce to a minimum each company's requirements for skilled labor to be recruited outside. (In the case of companies operating more than one plant, this inquiry includes the possibility of transferring skilled workers from one plant to another.) Extension of job analysis and supplementary training are essential to this process. (b) Minimum requirements for skilled labor that cannot be met in any other way can be filled by systematic, planned recruiting, in cooperation with the United States Employment Service, of skilled workers now employed in industries whose production is less urgently important to the defense program. It may also prove possible to recruit many workers with experience in the needed skilled occupations who are now working in other occupations. The recruitment of employed workers for the aircraft industry could be carried on under controlled conditions as the need arises, the aircraft industry necessarily meeting the terms of employment prevailing in the industries from which workers might be drawn.

2. Programs of pre-employment training.--A thorough analysis of the training program in each center of labor demand for aircraft production will reveal whether training has been initiated of the kind and on the scale necessary to meet anticipated demands as they arise. Where local supplies of trainees are inadequate, arrangements might be made to import persons to be trained. If necessary, training facilities can be moved to the source of labor supply in order to avoid the problems arising from the inability of trainees to maintain themselves away from home during the period of training. In this connection, it is important that the program of specific training for out-of-school youth in rural areas be directed toward supplying workers to the aircraft industry where they are needed.

3. Use of local labor.--It is clear that hundreds of thousands of semiskilled workers must be recruited and trained to meet the

expanding needs of present plants and to staff new plants now under construction. In many cases there are sufficient or nearly sufficient reserves of labor in the communities in which the demand will arise. Where this is the case, a systematic program of recruitment through the employment service, and training through the vocational schools and the NYA will go far toward meeting the hiring schedules of the new plants. Where it is necessary to import workers to be trained, the clearance machinery of the employment service and the administrative machinery of the defense training program can be used. Preference is generally given to local workers as long as there is a sufficient supply meeting reasonable hiring specifications, because the evils of unnecessary migration are widely recognized. When recruiting is centralized as far as possible through the employment service, the maximum utilization of the local labor supply can be achieved.

4. Minority groups.--In carrying out the policy of using local labor as far as possible, a very important consideration is the training and employment of members of minority groups. In certain centers of aircraft production there are large numbers of Negroes who could qualify for employment and training and who are being passed over while white migrants from other communities are being hired. Similarly, women are generally being ignored as a source of labor supply. Large-scale migration to centers of defense industries has already created serious community problems; even greater problems may face such areas when the emergency has passed. Training of qualified persons regardless of sex and color has been urged as an essential part of the attack upon this problem.

5. Labor turnover.--The monthly volume of voluntary quits in the aircraft industry during the early months of 1941, as reported by the Bureau of Labor Statistics, was at the rate of 2.21 to 2.59 quits per hundred on the pay roll, or at an annual rate of 26 to 31 per hundred. The unemployment compensation tax returns of one important plant recorded more than 2,000 separations during the first quarter of 1941 from an average employment of 16,000. This is substantially above the rate for manufacturing in general and for such comparable industries as automobile manufacturing, shipbuilding, and machinery manufacturing. It is only to be expected that turnover would be relatively high in an industry in which large numbers of untried workers are being hired. But according to reports, a part of this turnover arises from the tendency of young men who have been trained by one company to quit their jobs in order to obtain better jobs in a competing aircraft plant. This is particularly true in the concentrated centers of production like southern California. Furthermore, it is reported by the West Coast aircraft companies that they expect to lose trained workers to the California shipyards which have a higher minimum wage. Discussions have been held by the Office of Production Management officials with representatives of the California aircraft companies, looking toward a "stabilization agreement", along the lines of the West Coast shipbuilding agreement, but no progress was reported at the time of this writing.

PART II

THE EMPLOYMENT SITUATION IN THE IMPORTANT CENTERS OF AIRCRAFT PRODUCTION

Connecticut

The principal aircraft plants in Connecticut are located in the Hartford and Bridgeport areas, with a small propeller plant near New London. The entire State, however, has been greatly affected by subcontracting for the manufacture of airplane parts, and distances are so short that it may be regarded as a single labor market. It is a key defense area engaged in the manufacture of vitally important brass products, ordnance, submarines, machinery and machine tools, as well as in the production of aircraft engines, and frames and propellers.

The Connecticut aircraft industry consists of the three divisions of the United Aircraft Corporation whose total employment was estimated to be 28,800 workers on July 1, 1941. The United Aircraft Corporation is an integrated company; its Pratt and Whitney Division at East Hartford manufactures air-cooled engines; the Hamilton Standard Propeller Division has plants at East Hartford and Pawcatuck; and the Vought-Sikorsky Division at Stratford (near Bridgeport) assembles pursuit ships and other types of planes.

It is estimated that approximately 7,700 workers will be added to the pay rolls of the United Aircraft Corporation in the last six months of 1941, including 7,200 at the Pratt and Whitney Division in East Hartford. Projected expansion of the propeller plant at Pawcatuck, originally planned to add 700 workers, has been postponed because of increased production elsewhere. Both the Hamilton Standard Propeller plant at East Hartford and the Vought-Sikorsky division are operating near capacity and expect only slight increases in employment.

Connecticut, due to its important machinery and metal working industries early felt the effects of the defense program. Despite a successful and well-coordinated training program, and heavy in-migration, the State is short of skilled metal workers, semiskilled machine operators and, in some localities, trainable young men. The total number of registrants, 69,467 on April 15, 1940, declined to 35,133 on April 26, 1941. Only 27,634 of these were considered available and without jobs of any kind. The WPA rolls in the State decreased from 16,427 to 6,900 during about the same period.

Greater use of women, and of minority groups such as persons of Italian and German extraction, and of Negroes will help solve the problem. Some relaxation of employer specifications along these lines has already taken place.

Large numbers of skilled, semiskilled workers and trainees have migrated into Connecticut, especially from Massachusetts and Northern New England but also from New York, Pennsylvania, and West Virginia. Connecticut, confronted by unparalleled industrial expansion primarily through defense activity may find future expansion seriously handicapped, unless provision is made for the shift of labor by transfer from nondefense to defense production.

Long Island

The aircraft industry on Long Island centers in the Farmingdale-Bethpage area about 28 miles east of Manhattan on the Nassau-Suffolk County line, and in Long Island City. Within commuting distance of the former lie part of Kings, all of Queens, Nassau and most of Suffolk Counties. All of New York City and Nassau County are within reasonable commuting distance of Long Island City. This area is the most densely populated in the United States and contains the largest reservoir of unemployed. Because of the heterogeneous character of the population, full utilization of the labor supply depends upon the extent to which employers are willing to relax current hiring specifications.

There are three fair-sized airframe assembly plants in the area: Brewster Aeronautical Corporation in Long Island City, Republic Aviation Corporation of Farmingdale, and Grumman Aircraft and Engineering Corporation of Bethpage. The Ranger Engineering Division of the Fairchild Engine and Aircraft Corporation operates a small aircraft engine plant in Farmingdale. All of these companies except Brewster are building large additions. Those of Republic and Grumman are nearing completion, while that of Ranger has just been started. Difficulties in obtaining materials and skilled workers have delayed expansion in all of these plants. At the present time the four plants employ nearly 15,000 workers. Occupation of the new plants should cause employment to double early in 1942. When the above-mentioned difficulties have been overcome, peak employment may reach 50,000.

	Estimated employment		
	July 1, 1941	December 31, 1941	Peak
Total	14,835	26,900	50,400
Republic Aviation Corporation	4,240	10,000	20,100
Grumman Aircraft & Engineering Corp.	4,300	8,300	18,300
Ranger Engineering Corporation	795	1,600	3,000
Brewster Aeronautical Corporation	5,500	7,000	9,000

In addition to the plants above, there is an important secondary aviation industry comprised of firms manufacturing aircraft control instruments, subassemblies, aerial cameras, and parts.

The New York area has a huge surplus of untrained labor. The supply of available skilled workers in the metal trades has not been exhausted but consists largely of persons of Italian, German, and Jewish extraction and of noncitizens. There are not many skilled metal craftsmen among the Negroes. The heaviest demand for workers from New York City will be experienced in its periphery; in the New Jersey area and on Long Island as well as the New York Navy Yard in Brooklyn. There is no indication that the general supply of trainable male labor will not be adequate. Grumman and Republic are training and hiring Negroes.

Training on Long Island has been geared carefully to the needs of the aircraft manufacturers, and set up according to the employers' specifications. This has not been true in New York City, although rapid strides have been made recently in this direction. The training potential in instruction, facilities, and training material in the area is tremendous.

The great expansion of the firms in the Farmingdale-Bethpage area still lies in the future. The inadequate supply of key skilled craftsmen may prevent peak employment from being reached on schedule.

New Jersey, Delaware and Pennsylvania

In this tri-state area, one of the major defense production areas in the country, aircraft production is not a large factor, relatively speaking. The only plant in the three States employing or scheduled to employ more than 10,000 workers is the engine plant of the Wright Aeronautical Corporation at Paterson, New Jersey, a city of 140,000 persons.

Employment at the Wright plant increased from 12,000 workers in October 1940 to 15,000 in January 1941 and to 17,200 by July 1941. Throughout the rest of the year the plant expects to hire at the rate of 100 a month, reaching 17,800 by January 1942. It is now operating three shifts. To operate all three shifts at capacity seven days a week would require 2,700 additional employees.

The company cooperated with the public school officials in setting up a training school in machine-shop operations in January 1940. When the national defense training courses were started in July 1940, the Paterson school was absorbed by the new program. So many men,

formerly salesmen, clerical workers, and other types of nonfactory workers, have gone through the training school and obtained jobs at the company that the supply of eligible trainees in the Paterson area is exhausted.

The Paterson plant is transferring several hundred key men to the company's new engine plant at Cincinnati, Ohio.

In Pennsylvania, there are two aircraft engine plants, one at Williamsport and the other at Pottstown. The Lycoming Division of the Aviation Manufacturing Corporation at Williamsport practically completed its expansion by January 1941. At that time it was employing 2,000 men and added only 50 men during the first half of the year. Their capacity employment is 2,500 employees, but having upgraded to the limit, they cannot expand until new trainees are available from the Williamsport vocational school and the present employees are sufficiently experienced to be further upgraded.

The company took an active part in establishing a local training course in machine-shop operations. It was started in the depression years for the purpose of equipping the unemployed to find jobs. Since the local supply of training material is exhausted, trainees are now coming from outside the comuting area of Williamsport. But because the starting wage rate at the aviation plant, $.50 an hour, is low compared with that in many other defense centers, recent training school graduates have been seeking jobs outside of Williamsport, and this plant has not been able to attract many new workers.

The Jacobs Aircraft Engine Company at Pottstown employed 450 persons in January 1941 and 800 by July 1941. Last March the company received a certificate of necessity for a plant addition and equipment which will give employment to an additional 1,175 persons when completed. Qualified workers can be obtained from nearby Reading, where full-fashioned hosiery workers face unemployment.

The Curtiss-Wright Corporation has three propeller plants, at Clifton and Caldwell, New Jersey, and Beaver, Pennsylvania. The Caldwell plant was opened in the spring and received its key personnel from the Clifton plant, which is only eight or ten miles away. Together these two plants expanded from 1,900 employees in January to 5,875 in July, and will require 175 workers before the end of the year.

The plant at Beaver, 30 miles northwest of Pittsburgh, is being built by the Government to be operated by the Curtiss-Wright Corporation. It will be completed in September; plans call for the recruitment of 2,500 employees by November with capacity employment of 4,000 to be reached by January 1942. About 900 of the 1,100 workers employed in May in a plant operated by the company on Neville Island, less than 25 miles from Beaver, are willing to transfer to the new plant at Beaver, in the probable event that the Neville Island plant will be

closed. The demand is for male white citizens under 40 years of age, not all of whom will be available within commuting distance. However, New Castle, a depressed tinplate town, is only 25 miles away and New Kensington, suffering from the priorities in the aluminum industry, is only 40 miles away. Some workers may also be drawn out of Pittsburgh where, despite record steel production, employment lags somewhat because of increased mechanization in the iron and steel industry.

This tri-state area has five airframe plants. The Brewster Aeronautical Corporation at the Newark Airport employed 1,900 workers in January 1941 and 2,100 in July. It will increase personnel by 100 a month and thus employ 2,700 by January 1942. The same company is building a plant at Johnsville, about thirty miles north of Philadelphia. The hiring schedule calls for the employment of 500 workers in July, 700 to be added in August and September, and 3,500 in October, November, and December, bringing the force to 4,700 by January 1942. About 350 men will be transferred to Johnsville from the company's plant at Long Island City. The demand is for male white citizens between the ages of 18 and 55, not many of whom will be available locally. However, the plant is located in a truck farming district and it is expected that the workers will come from nearby farms and small towns. As early as last April the plant was conducting three training courses to supply its future labor needs.

Fleetwings Inc., at Bristol, midway between Philadelphia and Trenton, formerly makers of truck bodies and trailers, are now making airframes. Employment totalled 1,300 in January 1941 and 1,500 in July. About 2,250 additions are anticipated in the second half of the year, bringing the plant's employment to 3,750 by January 1942. They are hiring male white citizens between 18 and 50 years of age, but accept machinists up to 65 years of age. Women will be hired for sewing machine operating, but for no other production work. This plant will be the largest employer in Bristol, a town of only 12,000 persons.

The Bellanca Aircraft Corporation at New Castle, Delaware, five miles from Wilmington, is now employing about 375 workers. They expect to add 700 workers before January 1942. Preference is given to resident male white citizens under 25. Each new worker is given a six weeks' training course on machine operating. They are also planning to train women on light welding work, but are having difficulty in obtaining tools suitable for women.

The Piper Aircraft Corporation, Lock Haven, Pennsylvania, makes training planes. Last January they employed 1,150 workers and increased by only 100 during the first half of the year. If the plant were to operate seven days a week on a 24-hour schedule, they would need 1,000 additional workers. At the present time no expansion is in prospect.

Baltimore

The only aircraft manufacturer in the Baltimore area is Glenn L. Martin Company, which manufacturers light and heavy bombers, employing 17,145 persons on July 1, 1941. It is expected that 3,600 additional workers will be hired by December 31, 1941, and that a total of 37,350 workers will be employed by May 1942.

In-migration of at least 23,000 persons to the Baltimore area by May 1942 is considered necessary, in order to meet employers' demands. Of this number approximately 17,000 would be for the Martin Plant, 3,000 skilled aircraft workers and 14,000 young men who would be trained at the plant. However, in view of national shortages of skilled aircraft and shipbuilding workers (the other major defense activity in the Baltimore area), it appears that there must be a very thorough-going program of training, upgrading and job dilution. Further, a change in the policy of the Martin firm with respect to employing women and Negro workers would also lessen the need for the importation of trainees.

Buffalo

The Buffalo labor market area includes the cities of Buffalo, Niagara Falls, Lockport, the Tonawandas, and Lackawanna. This region is one of the leading manufacturing areas in the country, especially in the iron and steel, metal-working, electro-chemical, and aircraft industries. Although there is some commuting from more distant points in Chautauqua County and from Jamestown, these cities are normally outside the commuting area.

The Curtiss Airplane Division of the Curtiss-Wright Corporation builds airframes in its Buffalo plant, powering the ships with Wright engines. The plant in Buffalo employed 13,000 workers in July. The company is now completing a new plant in Cheektowaga, just outside Buffalo, in which approximately 12,000 workers will be employed. Employment in both plants may reach 20,000 by the end of 1941.

The Bell Aircraft Corporation manufactures pursuit planes. The company operates a plant in Buffalo and recently opened one in Niagara Falls. On July 1, 1941 approximately 9,000 workers were employed at both plants. On January 1, 1941 this company employed only 3,700 workers. It is estimated that the Bell and Curtiss Corporations will add approximately 11,000 additional workers to their pay rolls between July 1 and December 31, 1941. Large numbers of aircraft riveters, detail and final assemblers, and sheet-metal workers will be needed, as well as tool and die makers, machinists, and machine operators.

The demand for skilled metal craftsmen and trainable young workers for the aviation industry has virtually exhausted the supply of these workers in the entire Buffalo area, and heavy in-migration has

already taken place. Many of the in-migrants have been persons trained in national defense courses in Syracuse, Elmira, Rochester, and other up-State New York cities. About 1,000 of the 4,800 men hired by the Bell Aircraft Corporation between January and June 1941, came from outside of the Buffalo area, including a considerable number from the Middle West. Employers have been hiring persons of Polish, German, and Italian extraction increasingly as the supply of preferred workers has been depleted, and at the present time small classes of carefully selected Negro applicants are being trained for jobs both in Curtiss and Bell. For the past several months Buffalo has reported a shortage of applicants suitable for training, and the heavy demand for workers, coupled with the great increase in the aviation industry, has created a situation in which the area is confronted with an imminent general shortage of male labor, despite the heavy in-migration.

Southern Michigan

The aircraft industry of southern Michigan is concentrated around Detroit in Wayne and parts of Oakland and Washtenaw Counties. The population of this heavily industrialized region is approximately 2,250,000. Commuting is practicable in large measure throughout the area. Included in this discussion are two plants, located in Grand Rapids and Muskegon, since they will compete with Detroit employers for labor.

The Michigan aircraft industry, second only to that of California in potential size, is a direct outgrowth of the defense program. By utilizing the large-scale metal working and machine tool facilities in the area the manufacture of aircraft and parts is rapidly being developed to the point where it ranks with the production of automobiles as a major industry. All of the large automotive manufacturers are engaged in some phase of airframe or engine production. Ford, General Motors and Chrysler have recently entered into a cooperative agreement to produce bomber subassemblies for Martin, Douglas, and Lockheed. In addition, Ford and Packard are building engine plants which will be in full production by the end of 1941. Other automobile producers engaged in making airframes and parts include Hudson and Graham-Paige.

With employment exceeding 17,000 on July 1, the aircraft industry is schedule to hire 43,000 workers during the latter half of 1941, and to continue expanding throughout most of 1942. Ford's bomber plant in Ypsilanti is scheduled to employ 45,000 by the fall of 1942; by that time it is possible that the total employment in aircraft production will reach 130,000, in this area. In addition, there will be a demand for labor from other defense and nondefense sources which will probably total 110,000. The present supply falls short by at least 130,000 workers after allowing for new entrants into the labor market and assuming the absorption of all employables, physically competent, regardless of sex and color. However, not more than two-thirds of the total labor supply may be qualified and available for factory employment; age, sex,

aptitude, citizenship, and other hiring specifications will, unless relaxed, exclude a great many of those now unemployed.

Curtailment of from 40 to 50 percent in automobile production will probably release enough men to provide a good part of the experienced workers required by the expansion indicated. Perhaps 100,000 workers could thus be made available. These would be principally skilled and semiskilled machine and production-line employees. But only if marked in-migration of job seekers continues as in the past, will there be a reasonably adequate supply of labor of all types. Local preemployment and supplementary training programs are being coordinated to meet the needs of the new aircraft plants.

Wage rates are among the highest in the country. Unskilled factory rates average between $.70 and $.90, semiskilled from $.80 to $1.15 and skilled from $.95 to $1.55 an hour.

Columbus

The immediate area on which Columbus relies for labor is Franklin County, which had a population of 389,000 in 1940. The estimated labor demand in this area for 1941 and 1942, based on information available in March, was for about 17,000 to 19,000 workers, with a large part of the demand coming from the new Curtiss-Wright plant. This plant will require about 11,900 workers from July 1, 1941 to the fall of 1942. About 4,300 will be needed in 1941, and 7,600 in 1942.

About 8,000 of the 11,900 workers needed will be male trainees, and about 2,500 will be skilled workers. A few women will be employed in the sewing department. Age limits are liberal. A shortage of skilled workers seems certain to develop; and although there appears to be enough workers who can qualify for the training courses to fill the demand for trainees during 1941, it is likely that 2,000 to 3,000 trainees will need to be recruited from outside the area during 1942, unless women and Negroes are extensively employed.

Akron

The demand for labor in Akron and its environs was estimated at about 20,000 workers in a survey made in April 1941. Of this demand, a good portion came from the two Goodyear Aircraft Company plants. One of these plants, now in operation, will add about 1,500 workers during 1941, and about 1,200 more by April 1942. The other plant, now under construction, will manufacture parts for Martin bombers, and will need a force of about 7,000. Hiring in the latter plant will begin late in 1941 and the company hopes to be operating at capacity during the spring of 1942.

No difficulty is anticipated in supplying labor from local sources for the plant now in operation. However, the immediate job openings elsewhere in Ohio are draining the Akron labor reserve, and a shortage of male labor may be expected towards the end of 1941, when the second Goodyear plant begins to hire on a major scale.

Specifications call for white citizens; age requirements are liberal. There is a substantial number of Negroes in the Akron area, and utilization of Negroes would help reduce the shortage of labor which may be expected to develop toward the end of the year. The chief local reserve, however, will be women, and the utilization of women would probably make in-migration unnecessary.

The Goodyear Aircraft Company plans an extensive training program and is also expected to call on the national defense training program to supply its need for semiskilled workers.

Cincinnati

The population of Hamilton and Butler Counties, Ohio, and of northern Kentucky around Covington within commuting distance of the Wright Aeronautical Engine plant in Cincinnati is approximately 600,000. This plant now nearing completion will employ about 12,000 men at capacity, including 1,000 Negroes in the foundry.

Although Cincinnati is a metal trades center, there are currently few unemployed craftsmen available. There appears to be an ample supply of unskilled persons available for training in Hamilton County, augmented by a continued inflow of workers from Kentucky and the Southern Appalachian region. The company has transferred about 600 men from its Paterson, New Jersey, plant to serve as leaders and key workers in the new establishment. A well-planned training program, described in Part III of this study, is expected to meet the company's need for unit-skill employees. Wage rates paid by Wright assure it a supply of labor, sometimes at the expense of local employers. Some of these have voluntarily released workers to the new establishment which currently employs 4,000.

Nearby Dayton, though hardly to be deemed a part of the Cincinnati area, may be considered briefly here. General Motors' subsidiary, Aeroproducts Corporation, manufactures propellers in two factories in Dayton's outskirts. July employment is reported as 2,650 for the two plants; peak employment of 3,440 will be reached late this year when plant extensions are completed. The company reports an abundance of employment applications in all occupations.

Indianapolis

The Indianapolis labor market area includes no other large cities, the nearest being Anderson, 36 miles northeast of Indianapolis. In addition to its airengine plants, Indianapolis has diversified manufactures and will be the location of two large establishments, a naval ordnance plant and a brass factory, which together will employ 5,000 workers during 1942.

The Allison Engineering Company, a division of General Motors Corporation, makes liquid-cooled airengines. The company has very large British orders. On July 1, 1941, the Allison Company reported employment of 11,500, compared with 7,400 in October 1940.

It is estimated that 13,600 workers will be employed at the Allison plant by December 31, 1941. Most of the new employees will be needed by September in a unit now being completed. Tool and die makers, machinists, and machine operators will be needed and, despite local defense training in the vocational schools and in the factories, perhaps 1,000 workers from outside the area will have to be brought into the city. The in-migrants will include 500 skilled workers.

The Curtiss-Wright Corporation has taken over the old Marmon Motor Car plant and will manufacture airplane propellers there. On July 1, only 190 workers were employed, largely technical and supervisory personnel. When full production is reached in November or December 1941, about 4,000 workers will be employed. The company plans to bring 50 or 60 highly skilled men from its Caldwell, New Jersey, plant, and to recruit others locally, as well as to train a large number of semiskilled workers.

Shortages in all metal-working occupations have existed for several months. While a sufficient number of persons to be trained is now available, shortages may develop during the summer. Indianapolis has a very large Negro population, but thus far Negroes have not been accepted for industrial employment. Since the Indianapolis industries which expect to hire the largest number of workers outside of the aviation industry will not begin mass hiring until 1942, the aircraft industry will probably be able to obtain the required number of trainable persons needed by December. The Allison Company also occupies a favorable position because it pays relatively high wages. It seems certain, however, that further hiring in 1942 will depend on more complete utilization of the local supply, including Negroes, as well as on training workers outside the immediate area.

Nashville

Nashville is the center of a labor market having a population of about 500,000 persons in 1940.

The Vultee Aircraft Company took over a former plant of the Stinson Aircraft Company in 1940 and immediately began an expansion program. The new plant was finished in April and is now making dive bombers for the British government. In February 1941, 1,200 workers were employed, on July 1, 2,400. Peak employment of about 7,000 is expected in the fall.

About 2,500 of the additional workers will be brought to Nashville. This number includes 770 executives, inspectors, and engineers, 700 experienced aircraft workers and 300 skilled metal trades workers. The executives will be brought from the company's California plant, the experienced workers will be recruited in other aircraft centers, and attempts are being made to recruit the metal craftsmen in other southern cities. In addition, it is estimated that about 700 persons will be drawn from training courses now in operations in centers outside of the Nashville area. Although there has been a great deal of training activity in the area, it is reported that this activity has had to be curtailed somewhat since Vultee's hiring schedule has been slowed down by changes in specifications.

Some difficulty in recruiting the necessary experienced workers may be encountered because of relatively low wage scales and an acute housing shortage. However, defense housing funds have been allocated to Nashville, and abundant overtime has made weekly earnings attractive in spite of the relatively low wage rates.

Chicago-Northern Indiana

Aircraft production in this area is confined to the manufacture of engines in the Chicago metropolitan district, South Bend, and Fort Wayne. The two principal contractors, Studebaker and Buick, originally contemplated establishing engine factories at the site of their automobile plants at South Bend and Flint, Michigan. The larger available labor supply around Chicago induced Buick to locate its entire airengine production there, while Studebaker allocated about half of its planned expansion to that section. The other Studebaker engine plants will be located in Fort Wayne and South Bend. All the Studebaker plants will manufacture engine parts, but the final assembly will be undertaken in South Bend.

Studebaker will employ some 4,000 persons at South Bend, 4,000 at Chicago, and 1,400 at Fort Wayne. About 40 percent of the South Bend staff will be skilled. At Chicago and Fort Wayne a very large proportion will be semiskilled machine operators. Hiring will start about November and peak production will be reached about the fall of 1942.

Wage rates will be the same at all three locations; they compare favorably with those prevailing in the localities ranging from 75 to 85 cents per hour for unskilled, 96 cents to $1.13 for semiskilled, and $1.00 to $1.50 for skilled. There should be little difficulty, therefore, in securing the necessary supply of workers in Chicago and Fort Wayne where the labor supply far exceeds that of South Bend. A probable curtailment of automobile production of between 40 and 50 percent will release a number of workers sufficient to staff the South Bend plant, and particularly, make available the skilled tool and machine workers needed. Local training programs in all three places will help supply the types of semiskilled machine operators needed. The pre-employment courses will be supplemented by in-service training.

The Buick Melrose Park plant to produce Pratt-Whitney engines will open in September 1941 with about 3,000 workers. Peak employment of 14,000 will be reached in December 1942. Of these, 2,200 will be women, 1,900 of them office workers and 300 in production. Most of the production personnel will be semiskilled male machine operators, as at Studebaker. The total aircraft demand in Chicago is about 18,000. This constitutes perhaps one-third of the total manufacturing additions to be made in the area by December 1942. The supply of labor seems sufficient for all manufacturing needs, although in some occupations it may be short. Training and wage rates for the Buck plant will be similar to those outlined above for Studebaker.

St. Louis

Airplane production in the St. Louis area is concentrated at the Curtiss-Wright plant in which current employment is about 3,200 workers. It is estimated that by December 31, 1941, employment at the plant will reach 8,500. Peak employment of approximately 12,000 workers is expected to be reached by February 1942.

While the available labor supply in the area appears adequate to meet the total labor demand to July 1, 1942, (approximately 39,000 workers), some in-migration of highly skilled workers will unquestionably be necessary, both for the Curtiss-Wright plant and for other defense plants in the area. However, local employers will make every effort to keep necessary in-migration to a minimum, by resort to training and upgrading. The volume of necessary in-migration may be reduced somewhat if full use is made of available Negro labor.

Kansas City

Aircraft production in Kansas City will be concentrated at the new plant of the North American Aviation Company, soon to be completed. It is estimated that this company will hire a total of 8,300 workers by July 1942, of which number 1,600 are scheduled to be hired in early

September 1941. Workers to be hired will be distributed approximately as follows:

Managerial, Professional and Technical	50
Office and Clerical	400
Skilled	1,000
Semiskilled and Unskilled	6,850
Total	8,300

Women will be employed only in office and clerical positions, and it is reported that only white workers will be hired.

In general, it is expected that during the next 12 months, 20,000 production workers will be needed in the area, principally by the North American Company and by the Remington Arms Company. It is expected that this demand will necessitate the importation of 1,000 workers, principally in the skilled metal crafts. By using Negro and female labor wherever qualified workers in these groups could be found, importation of semiskilled and unskilled can be avoided in large part.

Defense training in the area has been considerably impeded by a lack of funds for necessary equipment. However, it is hoped that from 1,000 to 1,200 students will be trained for the North American Aviation Company by September 1, at which time the firm will begin operations.

Wichita

The immediate area from which Wichita draws its labor supply has a radius of about 60 miles, with a population of 316,000 in 1940. There are no major defense plants in the area except the three aircraft plants on the outskirts of Wichita: Boeing (Stearman Division), Beech and Cessna. Approximately 13,000 were employed in these plants in July and present plans call for about 17,000 additional workers, 5,000 of them in 1941. Most of the workers needed will come from the National Defense Vocational Training courses.

The Beech Aircraft Company manufacturing training planes, with 4,246 employees in July, will hire 1,950 additional workers by the end of the year. The Cessna Aircraft Company, manufacturing secondary training planes, had about 2,600 employees in July, and will add 1,300 by the end of December when it will reach its capacity. The Stearman Division of Boeing, makers of training planes and bomber parts, had about 5,500 employees in July and will add 1,800 more to its present plant by December. A new Stearman plant, to employ about 12,000, will be completed late in 1941 or early in 1942.

The supply of male labor in Wichita and the commuting area has been virtually exhausted and most of the 5,000 workers to be hired during 1941 as well as the 12,000 needed in the new Boeing plant in 1942

will need to be imported from outside the area. The number of in-migrants from outside the commuting area may be as high as 14,000 to 15,000. If maintenance in Wichita were provided for trainees, it would probably enable several thousand persons in the commuting area to come to Wichita for training and reduce in-migration from outside the commuting area to 10,000 or 12,000. Few women are at present used in the aircraft industry, although the use of women appears feasible on a much larger scale, thus materially reducing in-migration. There are relatively few unemployed Negroes in the area; no Negroes are employed in any of the aircraft plants at the present time. There are few aliens in this area.

The major source of labor up to the present has been Wichita and the commuting area, and the State of Kansas. Small numbers of workers have come from Oklahoma, Missouri, eastern Colorado, Nebraska, and Iowa. These areas will be relied upon more and more as a source of applicants for defense training.

An extensive national defense vocational training program, closely related to the needs of the aircraft industry, is in operation and can turn out between 5,000 and 6,000 trainees every six months. This is approximately equal to the absorptive capacity of the local aircraft industry. The problem in Wichita is primarily one of recruiting a sufficient number of applicants to maintain the training program at capacity. Two methods have been suggested for overcoming the shortage of applicants: (a) to utilize and train local women, and (b) to provide maintenance during training for those in-migrants who cannot maintain themselves at their own expense.

Tulsa

Tulsa has been designated as the site for a bomber assembly plant to be operated by the Douglas Aircraft Company. Information on the labor requirements of the plant is incomplete as yet, but about 15,000 workers will be required. It is expected that the demand will be for white male workers able to pass strict physical examinations and aptitude tests.

It is estimated that about 8,000 workers able to meet the probable specifications will be available in the area. Therefore, a shortage of 3,000 skilled workers and 4,000 other workers is expected, and 7,000 in-migrants will be needed to supply the demand. Active files have increased considerably during the past three months indicating (1) increased registrations of workers who had failed to register previously or (2) considerable voluntary in-migration induced by the construction of the plant.

Defense training courses have been established in Tulsa to provide the necessary production workers, and technical courses are being provided at the Oklahoma Agricultural and Mechanical College at

Stillwater. It is not expected that Negroes will be employed at the plant. Women are used in the Douglas plant in California but primarily in such occupations as sewing, cutting parachutes, etc. While Douglas shows a tendency to use them in increasing numbers, no information is available to indicate the extent to which they will be used at the Tulsa plant.

Dallas-Fort Worth

Dallas and Fort Worth, lying 35 miles apart in northeast Texas, comprise the largest population center of the State. Two bomber plants are located in the area. The North American Aviation Company plant, located near Dallas, employed 2,900 workers in July 1941. At least 6,700 will be hired before January 1942. Peak employment of about 12,000 is expected to be reached prior to July 1942. In Fort Worth a plant of the Consolidated Aircraft Corporation is being built. Officials of the plant expect to begin hiring in late 1941, and to have a staff of 15,000 by the end of 1942. Other manufacturing demand is expected to raise the total number of workers needed before the end of 1942 to about 30,000.

The supply of workers expected to be available for aircraft work under present hiring specifications is estimated at 10,000. Therefore, to meet the total labor demand, nearly 17,000 workers will have to come into the area during 1941 and 1942. A relaxation of hiring specifications might reduce in-migration substantially, but probably not below 12,000.

A number of special problems have been encountered in the Dallas-Fort Worth area. The hiring of such large numbers of production workers required training on a large scale. Courses have recently been approved as far away as Shreveport, Louisiana to train for aircraft work in this area.

Recruitment may become more difficult because all available housing facilities are expected to be occupied during early 1942, the period of heaviest in-migration. This and other difficulties that may rise from in-migration, can be alleviated by more effective use of local labor. This would require a relaxation of the strict employer specifications pertaining to age, sex, and color.

Omaha

Glenn L. Martin Company is building a new plant about 8 miles south of Omaha, with manufacturing operations due to begin November 1; full operation is expected to be reached by February 1, 1942.

Contracts totalling $166 million are expected to be assigned to this plant, which will assemble medium bombers, under arrangements

whereby the Chrysler, Hudson, and Goodyear Companies will furnish components to the Martin Company. An unofficial estimate obtained from army engineers at Omaha (the company withholds figures at present) places expected hirings to reach 10,000 by November 30, and peak employment of 16,500 by February.

An estimate of anticipated hirings in the Omaha area must take account of the fact that expansion by other local companies, notably Omaha Steel Works, Cudahy Packing, and Union Pacific Railroad (shops), is now occurring. In addition, employers from other centers in this midwest area, including the airplane companies of Wichita and Kansas City, and the duPont Company, have been recruiting in Omaha. It is probable that the labor demand of the new Martin plant, superimposed upon this situation in the fall, will be difficult to fill locally.

The six employment offices in the Omaha area (which includes Council Bluffs and the neighboring counties in Iowa) reported 21,000 registrants who lived within commuting distance of the Martin plant. Almost four-fifths of these were males, including about 1,500 Negroes; but barely 1,000 were in skilled occupations.

Training courses in the two trade high schools of Omaha are to run on a three-shift, 24-hour day basis. According to arrangements made with the Martin Company, defense training courses will be established in other places in the area. Evidently there is recognition of the fact that only by most vigorous prosecution of the training program will it be possible to supply the Martin plant with its needs for lesser-skilled labor without considerable in-migration. As regards highly skilled mechanics, supervisors, and technical staff, in-migration of at least 5,000 workers appears inescapable. It is to be expected that Glenn L. Martin Company will pursue the usual policy of drawing upon its main plant for a good many of these; but the rapid expansion now taking place in the Baltimore plant may set limits to this possibility.

Seattle

Seattle is part of the Seattle-Tacoma-Bremerton area, which has a population of 687,000.

The Boeing bomber assembly plant at Seattle employed about 12,000 in July and estimated its needs as 7,250 trainees to be added by the end of the year. A contract allotted to Boeing by the Navy Department calls for the erection of a new plant at Renton, just south of Seattle, which will employ about 11,250. The Renton plant will not begin hiring on a major scale until early 1942.

The 19,000 job openings at the Boeing Company represent over a quarter of the 65,000 to 70,000 which are expected to develop in the next 18 months. Shipbuilding will require 18,000 workers (including 4,500 at the Bremerton Navy Yard); other manufacturing industries related

to defense may require as many as 7,000, and about 18,000 to 23,000 hirings are expected in miscellaneous manufacturing and other industries.

The supply of skilled workers and foremen has virtually been depleted, and more and more openings at this level are being filled by upgrading and to some extent from the apprenticeship program. The skilled personnel and supervisors of the Renton plant will undoubtedly be secured by transferring key people from the Seattle plant.

Current shortages of experienced skilled and semiskilled workers particularly in the machine shop and metal trades will be aggravated as the shipbuilding establishments step up their hiring. Boeing Aircraft is depending upon the National Defense Vocational Training pre-employment courses to supply trainees, and the supplementary training courses to develop semiskilled and skilled workers. Pre-employment training programs related to Boeing's needs have been developed in Washington and Oregon, which can graduate about 6,000 and 2,000 trainees, respectively, every six months. Boeing's specifications for trainees are rather strict--white male citizens aged 18-35; 30 hours of instruction a week for 12 weeks; physical examination; two years of high school or its equivalent.

The Seattle plant may not encounter serious difficulty in recruiting the 8,000 trainees which it will add by the end of the year, but an acute shortage of locally available male labor is certain to develop by the end of the year when the Renton plant will begin to hire, and when the rate of shipyard hiring will be accelerated. It is estimated that even under conditions of maximum utilization of the locally available male labor reserve, about 35,000 to 45,000 workers must be recruited from outside the area during the next 16 to 18 months.

Migration and the shortage of labor could be materially reduced if (a) the minimum age specification of 18 were reduced to 17 or 16 so that recent high school graduates could qualify for training, and if the age limit of 35 were raised; and (b) if women, particularly those not ordinarily in the labor market, were used in the Boeing plant.

There are few unemployed Negroes, native-born Americans of Oriental stock, or aliens in this area.

Portland, Oregon

The immediate area from which Portland, Oregon draws its labor includes three neighboring counties in Oregon and one in Washington. Labor needs in Portland in the 16 months from April 1941 to September 1942, on the basis of present plans, call for about 15,000 workers, half of whom will be needed in shipbuilding, and about 4,500 by Columbia Aircraft Industries. The latter's employment was about 1,600 in July, with about 600 workers needed during the balance of 1941 and about 2,300 needed between January and August 1942.

Columbia Aircraft Industries will be able to recruit sufficient labor within the immediate area to meet its needs; however, the depletion of the experienced skilled and semiskilled labor reserve will force the company to rely largely upon supplementary training and upgrading to fill the 800 to 1,000 positions of highest skill.

Los Angeles

The Los Angeles area is the principal center of airframe and assembly activity in the United States, and one of the leading aircraft parts manufacturing districts. Here are located two of the largest manufacturers of bombers and fighting planes, Douglas and Lockheed-Vega, as well as North American, Northrup, and Vultee.

Employment in the industry has grown from about 20,000 in 1939 to approximately 100,000 in July 1941. To this, there will be added some 50,000 when plant expansion programs are completed in 1942. The expansion in aircraft employment will constitute approximately one-half of all hiring in this area during that period. Shipbuilding, other manufacturing, and trade and service industries, will make up the balance of the hires. By the middle of 1942 aircraft manufacturing will comprise nearly 40 percent of all factory employment. A program must be developed to meet a need for skilled and unskilled workers, which, by June 1942, will exceed present supply, plus normal increment, by 65,000.

Employer specifications are approximately the same for all aircraft companies. Employers prefer native white, male youth with mechanical aptitude who can be readily trained. Limited attempts to employ Negroes in the Douglas plant have recently been abandoned. There is some likelihood that women will be used in increasing numbers as the shortage of qualified male trainees becomes more acute.

The present expansion is rapidly depleting the local supply of persons suitable for training, despite a continuous in-migration of job seekers, three-fourths of whom have found jobs in the aircraft industry. The occupations in which shortages exist are those prevailing generally throughout the industry. The chief method of training workers in these occupations is through a coordinated program of the National Defense Vocational Education courses, private training schools, and in-service training in the plants, together with upgrading to fill skilled and supervisory jobs. Some coordinated plan for absorbing workers who can be trained in their home communities outside of the Los Angeles area may have to be developed in order to assure a steady flow of new workers.

Wage rates for beginners are 50 to 60 cents an hour. Beginners rise to semiskilled levels within a six-month period, receiving wage increases by increments, until a level of 65 or 75 cents is reached. Skilled men earn between 90 cents and $1.35 per hour, the mode rate being about $1.00.

The Douglas Company employed approximately 28,000 in July and will hire 20,000 more by April 1942. Lockheed employed about 40,000 in July and will add 10,000 by February 1942. North American will increase its employment from 11,250 in July to about 18,000 at peak. Vultee will add 3,500 by late 1942, when full employment of about 10,800 is reached. Northrup Aircraft will increase its employment from 2,234 in July to approximately 5,000 late in 1942. Freeman Aircraft, a new manufacturer in this area, will hire 5,000 workers in attaining full production late in 1942.

San Diego

San Diego County had a population of 280,000 in 1940; the city and its suburbs had four-fifths of this total. The expansion of the airframe and assembly industry in recent years has accounted for the vast number of in-migrants, which has led to serious housing shortages and other community problems in and around San Diego. The aircraft industry is the chief manufacturing activity. It will need approximately 20,000 workers, or about 90 percent of the total of 22,000 persons to be hired by July 1942.

The Consolidated Aircraft Corporation, manufacturer of Navy bombers and patrol ships, is the largest employer. Its present employment of approximately 17,000 will reach 30,000 by January 1, 1942, and at peak (the summer of 1942) may approximate 35,000. The Ryan Aeronautical Company, manufacturer of training planes, will expand its employment from about 1,875 on July 1 to about 2,400 by next January. Both Consolidated and Ryan are completing new plant additions. Two other local manufacturers of subassemblies, the Solar Aircraft Company, and the Rohr Aircraft Company, who together employ about 1,700, will add some 800 more workers by the spring of 1942.

The rapid expansion of aircraft employment in this area has led to a depletion of the white male labor reservoir from which the companies secured their new employees, so that at least two-thirds of all new labor needs, including learners, will have to be brought in.

In-service training and upgrading will be almost the only devices for securing the necessary skilled and semiskilled workers. Efforts are being made by the larger companies to recruit beginners throughout the Middle West and Eastern States for employment in San Diego. A relaxation of employer specifications as regards women and Negro and Mexican males would augment the potential supply of local trainees; it is reported that Consolidated has begun to employ women.

Wage rates are approximately those prevalent in southern California for this industry. Beginners start at about $.60 an hour and rise within a period of two months to about $.70 or $.75 an hour. Skilled workers earn as much as $1.25 per hour, but the majority earn between $1.00 and $1.10.

Part III

TRAINING IN THE AIRCRAFT INDUSTRY

1. The Nature of the Problem

The American aviation industry had experienced steady growth at a moderate rate of expansion since the World War but, because it was a new industry, no large labor reserve had been trained. The industry had already established facilities for the training of a considerable proportion of its own workers through private training schools. These were effectively operated in conjunction with aircraft corporations, like the Curtiss-Wright Technical Institute in Glendale, California, the Stinson School of Aviation in New York City, and others. Many of the private schools, especially those attached to important flying fields, specialized in the training of airplane mechanics and pilots. In periods of slackened business activity it was possible to draw upon the machinery industries for considerable numbers of highly skilled metal craftsmen who could readily be adapted to occupations in the aircraft industry.

Even before the launching of the national defense program, the aircraft industry had absorbed its small reserves of skilled labor when large orders from foreign countries for military aircraft accelerated the expansion in American production. The national defense program not only created an unprecedented demand for all types of aircraft workers; it absorbed almost completely the new industry's secondary reserve of skilled workers in the metal-working fields because of the vastly expanded machine-tool, ordnance, shipbuilding, and general industrial demand. Thus, the aviation industry was forced to turn to a vast program of upgrading, job breakdown, and induction training of inexperienced workers. In most large aircraft centers, the supply of metal workers who had become skill-rusty was quickly exhausted; skilled workers had to be provided by training experienced workers in more advanced skills. Machine operators were taught blueprint reading, shop mathematics, and set-up work, either by training in the plant, or in national defense supplementary training courses. At the same time, the larger companies sought to lessen their need for skilled workers by job dilution.

The greatest number of workers to be hired--machine operators, sheet-metal workers, welders, riveters, detail and final assemblers--are unit-skilled workers. In these jobs inexperienced workers can

be trained or may obtain sufficient orientation and background work to permit them to be readily adapted to production work. Many of these workers are being trained in preemployment courses given by public vocational schools under national defense funds. Often the instructors, machines, and practice materials are supplied by the firms for which the training is primarily done. After a brief training period, lasting from four to twelve weeks, the worker begins actual production work under the guidance of experienced men. Persons to be trained are frequently selected by the public employment offices on the basis of previous experience, training, and mechanical aptitude, an effort being made to draw upon WPA rolls for as many as 50 percent of the enrollees. After the training period the worker generally receives an hourly rate of $.50 or more; wage increases are given at intervals during the first several months until hourly earnings of $.65 or $.75 are reached. Further promotion depends upon the plant system of upgrading, upon the individual's performance, and in many cases upon further training.

Aircraft companies have used the training program in various ways. Where the job specifications, machinery and instructors have been supplied by the employer, the training has been designed to equip workers for specific jobs in specific plants. Training of this kind has been closely geared to employer needs in Connecticut for the various divisions of the United Aircraft Corporation; in Paterson, New Jersey, for the Wright Aeronautical Division; in Buffalo and other up-State New York cities for the Curtiss Airplane Division and the Bell Aircraft Corporation and elsewhere. Some employers, however, regard pre-employment training primarily as a selection and orientation process.

To meet the unprecedented demand for 190,000 aircraft workers by December 31, 1941 and 270,000 additional workers during 1942 under present production plans, private industry and government training agencies are confronted by vast training problems, both in upgrading experienced workers and supplying basic knowledge and skills to new workers. In several areas the local supply of inexperienced persons to be trained has already proved inadequate. In other areas, it will shortly become so. Many plants have already upgraded their workers so rapidly that future possibilities in that direction will be limited for some time to come. The introduction of automatic machinery has already modified the demand for skilled workers to a considerable extent, but mass-production methods, as they exist in the automobile industry, appear to be applicable to aircraft manufacture only to a limited degree, at least for the present.

In some areas, rigid employer specifications regarding the nationality, race, and religion of job applicants have severely reduced the local supply. This is true in southern California, where aircraft plants have depended in large measure, for several months,

upon mass in-migration to supply trainees in sufficient numbers. Although women may perform many of the semiskilled operations and a few classes have been opened to women trainees, the industry as a whole has not yet made any extensive use of women workers. With few exceptions, production jobs in aircraft are still closed to Negroes. Training authorities are confronted with a difficult problem in regard to these groups. As long as employers refuse to hire them it would appear to be unwise to train large numbers of these workers. On the other hand, the act authorizing defense training under national defense funds specifically states that there shall be no discrimination.

The in-migration of thousands of workers into aviation centers has placed great strain upon the resources of these communities--housing, sanitation, public schools, and other community services. The timing of training has also created a train of problems. Many employers have been unable to maintain production schedules because of shortages of material and difficulty in obtaining equipment. As a result, in some of the areas a considerable unutilized supply of trainees has developed, and persons who have been trained in aircraft occupations have preferred to seek immediate employment elsewhere, intensifying the problem of local shortage in the future when full production schedules are resumed. As an example of the way in which uncertainty in meeting production schedules inevitably intensifies and complicates the problem of labor supply, a recent report to the United States Employment Service from Nashville may be cited:

> Several hundred individuals have been trained in pre-employment vocational schools in Nashville and vicinity, expecting to be employed by this company who had previously given assurance to the employment service that it would need at least 3,500 additional employees and would begin to take these employees during the early part of this summer. The employment service referred to the Vultee Plant at intervals, a total of approximately 200 trainees. The Vultee Plant then requested the employment service to discontinue such referrals until further notice. Because of changes in specifications requiring changes in equipment, the Vultee Company will not be in position to take on any additional personnel for a period of 90 days or perhaps a little longer. This has left a considerable number of trainees without the prospect of immediate employment and, as a result, the Tennessee Agency advises this office that many of these men have voluntarily gone to the Curtiss-Wright, Glenn L. Martin and Lockheed factories and immediately obtained employment there. There are still a considerable number of trainees in various classifications available at Nashville, but the Tennessee Employment Service has hesitated to make any attempt to place them outside of the State until it could

be definitely ascertained that the Vultee plant would not be able to employ these individuals as originally contemplated. In a conference with the Director of the Tennessee State Employment Service it was agreed that the appropriate action to be taken at this time would be to place these persons in jobs, wherever suitable jobs might be found for which they are qualified. This may cause some difficulty in recruiting a sufficient number of employees for Vultee at a later date, but it is felt to be to the best interests of the trainees and the defense program to send these men to places where they are needed.

2. Pre-employment Refresher Training and Supplementary Training

Between July 1, 1940 and June 30, 1941 a total of 302,141 persons concluded training in all types of pre-employment refresher courses. It is not possible to state how many persons had been trained specifically for the aviation industry. Approximately 85,800 persons had been trained in what the Office of Education designates "aviation services,"--as sheet-metal workers, machine operators, airplane mechanics, welders and riveters. Additional thousands who have been trained in courses not specifically designated as aircraft courses,--electrical services, wood-working, welding, riveting, patternmaking, forging, foundry work, and automobile repair,--have also found employment in the aviation industry. It has been estimated that approximately half of the new aircraft workers hired during the past year have obtained some training from the public vocational schools.

An even larger phase of the training program is designed to give employed persons training in advanced skills,--the supplementary training program. Between July 1, 1940 and June 30, 1941, almost 320,000 workers had received training in these courses, and 144,850 persons were enrolled on June 30, 1941. It is estimated that almost 100,000 of the total number trained were in the aviation services group, most of whom were in aircraft mechanics, machine-shop work, drafting and blueprint courses, patternmaking, welding, and sheet-metal work. These supplementary courses generally last longer than the pre-employment courses; the worker can devote fewer hours to study because he is employed.

3. Training Within Industry

The Training-Within-Industry Branch of the Labor Division of O.P.M. has a headquarters staff at Washington, twenty field offices, each serving a section of the United States, and over 500 consultants who have been borrowed from industry to advise individual companies on their training and man-power problems. All of the field offices have a full-time representative in charge and, in many cases, an assistant representative and clerical staff.

The functions of the Training-Within-Industry Branch as it operates today may be stated briefly as follows:

(1) To collect from industry the best training practices which qualify through short-term training a large number of workers for productive occupations in the plant;

(2) To have these methods evaluated by leaders in the industrial training field;

(3) To promote sound short-term training (with due regard for the value of apprenticeship training in the present situation) and secure general acceptance by industry of this method as a sound solution to the most pressing man-power problems;

(4) To supply counsel to individual defense contractors on their training and upgrading problems, through the personal services of men of recognized leadership in the training, personnel, and production fields.

The Training-Within-Industry Branch has devoted a substantial part of its effort during the past 11 months to training in the field of airplane engine manufacture. It has rendered service to Wright, Allison, Ranger, and Lycoming. In the field of airplane accessories, assistance has been given to Thompson Products Company, Bendix, and scores of small-parts manufacturers. In the field of airplane assembly, the following companies have been served by Training-Within-Industry: Curtiss-Wright, Vultee, Lockheed, Douglas, Boeing, Republic, Brewster, Fairchild, Martin, Bell, Beech, and Cessna. The services rendered to the above-mentioned firms during the past 11 months, since September 1940, have ranged from selling top management on the value of training in solving their labor procurement problems, down to making analysis in detail of the training and man-power problem and giving counsel on procedures to be employed.

As an example of the training and upgrading problems confronted by a new plant, and of the methods employed in meeting them, the experience of the Wright Aeronautical Corporation is illuminating. As reported by the Training-Within-Industry Branch of the Labor Division, Office of Production Management, it illustrates rather well the way in which the vocational schools, the National Defense Training Program, the Employment Service, and the Company Training Department may cooperate in meeting the training problem of an aircraft plant.

Upon deciding to locate their new airengine plant at Lockland, (Cincinnati) Ohio, the Wright Corporation mapped their complete organization and supervisory needs. The 10,000 workers needed to operate the plant in January 1942, when it is to be operating at capacity, break down roughly as follows:

8,000 in the machine shop
1,000 in the non-ferrous foundry
1,000 in the 80 test cells.

The problem first attacked was that presented by the machine shop. From the parent plant in Paterson, the company brought 200 key supervisors early in 1941. At the same time, they started the Wright Training School, where a 3-months' course was given to selected men who gave evidence of capacity for leadership. From this group will be selected the 100 or more lead-men who will supplement the supervisors from the Paterson plant, as the need for machine-shop supervisors increases.

When the production operations began in June, the training period in the Wright School was reduced to four weeks, with the aim of furnishing 50 beginning machine-operators each week for the new plant.

The teaching staff of the school numbers 30 instructors, all first-class machinists selected for this purpose. Students get instruction on the machines that are most used in the plant: internal and external surface grinders and tool grinders; turret and engine lathes; screw machines, milling machines, radial drills, gear cutters and gear hobbers. The machine-tools are new; the materials worked upon are "rejects" of the same parts which the trainee will process in actual production.

The first week of training is devoted to related subjects: shop mathematics, blueprint reading, use of measuring instruments. The next three weeks are spent in learning the operation of a machine. Instructor uses standard operation sheets which list in detail the operations required. Trainees in the shortened four-week course receive no pay.

Parallel with the training program of the Wright School, is the work of the Cincinnati Mechanical Vocational School, which since June 1 has conducted an intensive four-week pre-employment course for prospective machine operators for the Wright plant. Similar in scope, methods, and equipment to the Wright School, it graduates an equal number--50 per week, thus providing a flow of 100 graduate trainees per week. On completing his course in either school the trainee's on-the-job training begins. He is assigned to a regular production operation under the guidance of an experienced machine operator. After six to eight weeks of this experience, he qualifies as a machine operator, and is on his own responsibility under usual departmental supervision.

For foundry workers, a different method of training was decided upon. In January 1941, the company hired 15 young men in Cincinnati and sent them to Paterson, where they were trained in core-making for eight weeks. They then returned to Lockland, together with several older supervisors, and began instructing a new group of similar trainees. As these men achieve skill, they in turn become lead-men for a new group of in-plant trainees, and the management believes that they will thus fill their need for foundry workers, as well as for supervisory talent in the foundry.

For the Engine Assembly and Testing Department, operators are inducted from pre-employment classes conducted by the Automotive High School of Cincinnati. A ten-week course is given to classes of 100 enrollees, three shifts a day. Every ten weeks, three hundred are graduated. The company has equipped the school with the same types of engines as those to be built at Lockland; it sent the instructors to Paterson to learn the Wright production methods there.

Of the 300 graduates in the first class, the best 75 were chosen for engine testers; the others became assemblers.

The Ohio State Employment Service has been a participant in the program throughout. Applicants for the various courses are referred to the Service to be tested for mechanical aptitude. In cooperation with the High Schools, further tests are given for the selection of engine testers.

The upgrading plan at Lockland involves the following principles and procedures:

Except for the nucleus of the supervisory staff which came from Paterson, all instructors, lead-men, and supervisors will be recruited from the work force now being assembled.

New workers, on becoming proficient in the operation of their machines, are to be encouraged to do their own set-up work. This additional skill is recognized by a wage increase.

Foremen are encouraged to rotate jobs with qualified workers in order to develop a versatile work-force. Men are shifted from job to job, and from department to department, as schedules for parts are completed or changed.

The foreman reviews the progress of each employee quarterly. This assures periodic consideration of promotion, transfer, rotation to new jobs, need for special training, and wage-rate revision.

It is expected that the staff for production engineering can be recruited from machine operators and lead-men.

Finally, it should be noted that apprenticeship training similar to that prevailing in the parent plant will soon be inaugurated at Lockland; and that foreman training, chiefly by the conference method, is projected for the near future.

4. Apprenticeship

Apprenticeship training differs from other "on the job" training programs principally in the careful organization and integration of work experience and related instruction and in the length of the training period. The objective is a versatile worker trained in a broad group of specific skills rather than a worker skilled in a narrow field.

Gradual changes in manufacturing techniques and procedures, accelerated by the present emergency, have resulted in the breakdown of many occupations containing groups of skills into single skilled units. These units are not apprenticeable and as a result the ratio of apprentices to other trainees is small. The ratio existing at the Lockheed plant where there are 60 apprentices and 9,000 individuals in other types of training is indicative. However, each of the 60 apprentices will receive many times the average amount of training given those in other training programs.

Some occupations do not permit a breakdown into a number of single skilled units. This is particularly true in the case of supervisory positions and jobs in which inspection and diagnosis form a part. Some occupations peculiar to aircraft manufacture and requiring extensive training are airplane instrument man (installation, repair and service), airplane rigger, airplane electrician (installation and testing), and aircraft woodworker. Some of the other occupations requiring broad training but not peculiar to airplane manufacture alone are general machinist, tool and die maker, and plant maintenance man (all classifications).

Many companies having organized apprenticeship programs have found it feasible to place in apprenticeship individuals who already have acquired some experience and training. Through careful selection and by giving these individuals an advanced rating the actual period in formal apprentice training has been shortened considerably without appreciably affecting the scope or quality of the training.

5. Other Phases of the National Defense Training Program

Under the general supervision of the United States Commissioner of Education instruction is given in engineering colleges and universities comparable in grade to that offered to regular engineering college students. The emphasis is on highly specialized phases rather than general instruction in engineering: the courses are designed to supply aircraft engineers and technicians. They include airengine

design and performance, drafting, aerodynamics, aircraft drawing and lay-out, aircraft fabrication and assembly, aircraft structural design, aircraft time-study, aircraft landing-gear and shock-absorber design, and a variety of other courses specifically designed to meet the shortage of technical aircraft personnel. Important programs are now in operation at the University of California in Berkeley, the University of Connecticut at its Hartford branch, the Pennsylvania State College (in approximately 50 centers in western and central Pennsylvania), the University of Washington (in Seattle and Bremerton) and in all of the leading schools of engineering and technology. Approximately 110,000 persons are expected to be enrolled in this program when it reaches its peak but it is not possible to estimate the number of these who will be drawn into the aviation industry.

The National Youth Administration in its out-of-school work program has had more than 150,000 youth employed in resident and non-resident work projects of all types. More than half of these were engaged in woodworking and sewing, about 23,000 in machine shop, sheet metal, welding, and foundry projects, and almost 9,000 in automotive and mechanical projects in June 1941. Youth engaged in these work centers receive actual production experience, systematic work habits. In the machine and metal-working field they receive 160 hours of shop work and class room instruction. There has been evidence from various parts of the country that many young men who have obtained this type of work experience have found employment in the aviation industry, almost 4,000 between January and June 1941, according to NYA officials.

6. Some Training Problems

The magnitude of the training problem ahead may be illustrated by some discussion of the problem in the Los Angeles and San Diego areas of southern California. It is estimated that nearly 20,000 workers will be required by the Los Angeles aircraft industry during the latter half of 1941, and about 13,000 workers will be needed by airplane manufacturing firms in the San Diego area during the same period. In both of these areas, the local supply of persons to be trained is inadequate, and both have already experienced heavy in-migration. It is anticipated that approximately 10,000 persons will be trained for the industry in pre-employment courses in Los Angeles County during this period, and that the supplementary program will train 600 persons for supervisory and technical positions, 3,000 welders primarily for aircraft production, and 11,000 aircraft production workers. The plants in the entire southern California area now rely heavily on formal training in public and private schools to prepare workers for unit-skill occupations, and to furnish them with advanced skills preparatory to upgrading.

In San Diego the influx of persons seeking employment in the aircraft industry has been so great that local housing facilities proved inadequate and several thousand were forced to move on. It is

estimated by the California Department of Employment that more than 54,000 persons will move into the Los Angeles area in the last half of 1941 in search of jobs and that about 39,000 of these will eventually find employment in the area. A large proportion of these in-migrants will receive training in aircraft occupations in public or private schools before being hired. These persons come from all over the country but particularly from the central valleys of California, from Oregon and Washington, the Rocky Mountain States, the Prairie States and the Middle West. Trainees have been cleared by the public employment service from Washington, Oregon, Kansas, and other areas. At the same time, there are large numbers of persons in California who are not accepted for training because of the strict specifications regarding race, color and national origin which have been maintained up to this time by California aircraft manufacturers. It is only through the heavy in-migration of workers to be trained that the southern California aircraft industry can hope to meet the demand for 32,000 aircraft workers by the end of 1941. Thus far, women have been admitted to training in only three courses in Burbank, but large numbers may be trained in the future if difficulties are experienced in obtaining an adequate number of male trainees.

In other areas, heavy in-migration of persons to be trained has also been necessary. Connecticut aviation plants have recruited in the Springfield, Massachusetts area especially, and throughout northern New England. A comprehensive plan of recruitment and training has been carried on in ten training centers in up-State New York to meet the heavy requirements of the Buffalo aviation industry. Training for the aircraft plants in Wichita has been carried on throughout Kansas and in the surrounding States, but shortages of materials have delayed expansion there, thus disrupting anticipated hiring. Recruitment has been necessary for the Baltimore plant of Glenn L. Martin from the counties of Maryland and from the surrounding States. Large new plants in Dallas, Fort Worth, Tulsa, Nashville, and Omaha necessitate extensive transfer of workers from the areas surrounding those cities.

As the labor market situation tightens, more comprehensive planning will be necessary, if the social costs of uncontrolled migration are to be avoided. The need is for a coordinated plan which will definitely gear training to the actual needs of the industry. This can be accomplished through the continued cooperation of management and labor, working in close collaboration with local training authorities, Federal and State education officials, the Training-Within-Industry Branch of O.P.M., and the United States Employment Service.

APPENDIX I

PERCENTAGE DISTRIBUTION OF ANTICIPATED HIRES OF SELECTED EMPLOYERS, BY OCCUPATIONS, MAY - OCTOBER 1941

MANUFACTURE OF AIRENGINES AND PROPELLERS

Occupation and Code Number	Percent
Total Anticipated Hires	100.0
PROFESSIONAL AND KINDRED	0.2
0-18.010 Industrial Engineer	1/
0-48.410 Tool Designer	0.2
0-50.220 Chemist Assistant II	1/
CLERICAL AND KINDRED	0.9
1-05.010 Clerk, general office	0.9
1-34.130 Shipping Clerk	1/
OTHER OCCUPATIONS	98.9
4-75 Machinist	12.0
4-75.120 Machinist, Bench	11.9
4-75.160 Job Setter II	0.1
4-76 Tool Makers and Die Sinkers and Setters	9.3
4-76.210 Tool Maker	8.6
4-76.220 Tool Inspector	0.7
4-78 Machine Shop and Related Occupations N.E.C. 2/	26.1
4-78.011 Engine-Lathe Operator	2.4
4-78.021 Turret-Lathe Operator	3.5
4-78.031 Milling-Machine Operator II	2.6
4-78.041 Boring-Mill Operator	2.8
4-78.100 Residual Code	2.9
4-78.511 Cylindrical-Grinder Operator	3.0
4-78.512 Internal-Grinder Operator	2.5
4-78.671 Inspector	6.2
Other Machine Shop and Related Occupations	0.2
6-77 Filers, Grinders, Buffers and Polishers (Metal)	2.5
6-77.020 Buffer I	0.1
6-77.060 Polisher II	0.1
6-77.510 Burrer, Hand	0.3
6-77.710 Bench Grinder	2.0
6-78 Machine Shop and Related Occupations N.E.C. 2/	17.5
6-77.081 Multiple-Spindle Drill-Press Operator	0.5
6-78.082 Radial-Drill Press Operator	2.3
6-78.083 Single-Spindle-Drill-Press Operator	3.5

6-78.144 Screw Machine Operator, Semiautomatic	0.5
6-78.632 Floor Assembler	10.5
Other Machine Shop and Related Occupations	0.2
Laborer, Process	1.6
Laborer	0.2
All Other Occupations	29.7

1/ Less than one-tenth of one percent.

2/ Not elsewhere classified.

APPENDIX II

PERCENTAGE DISTRIBUTION OF ANTICIPATED HIRES OF SELECTED EMPLOYERS, BY OCCUPATIONS, MAY - OCTOBER 1941

ASSEMBLY OF AIRCRAFT

Occupation and Code Number	Percent
Total Anticipated Hires	100.0
PROFESSIONAL AND KINDRED	3.5
0-17.010 Electrical Engineer	0.3
0-19.030 Aeronautical Engineer	1.1
0-48.040 Draftsman, Aeronautical	0.5
0-48.110 Draftsman, Electrical	0.5
0-48.410 Tool Designer	1.0
Other Professional and Kindred	0.1
CLERICAL AND KINDRED	1.2
1-18.660 Production Clerk	0.2
1-38.010 Stock Clerk	0.7
Other Clerical and Kindred	0.3
OTHER OCCUPATIONS	95.3
4.33 General Woodworking Occupations N.E.C. [1]	1.9
4-33.916 Airplane Woodworker (aircraft Mfg.)	1.9
4-75 Machinist	4.1
4-75.010 Machinist	3.5
4-75.120 Machinist Bench	0.6
4-75.160 Job Setter	[2]
4-76 Tool Makers and Die Sinkers and Setters	3.1
4-76.010 Die Maker	1.1
4-76.210 Tool Maker	2.0
4-78 Machine Shop and Related Occupations N.E.C. [1]	4.9
4-78.021 Turret-Lathe Operator	0.5
4-78.031 Milling-Machine Operator	1.5
4-78.671 Inspector, Machine Shop	2.5
Other Machine Shop and Related Occupations N.E.C. [1]	0.4
4-80 Tinsmiths, Coppersmiths and Sheet Metal Workers	17.7
4-80.010 Sheet Metal Worker	3.3
4-80.050 Sheet-Metal Worker, Aircraft	14.0
Other Sheet Metal Workers	0.4

4-85 Welders and Flame Cutters	1.7
4-85.030 Welder, Acetylene	1.4
Other Welders and Flame Cutters	0.3
4-97 Electricians	1.0
4-97.910 Electrician, Airplane	1.0
5-03 Occupations in Building of Aircraft N.E.C. [1]	1.7
5-03.110 Fuselage-Frame Builder	0.5
5-03.140 Tail-Surface-Frame Builder	0.7
5-03.150 Winge-Frame Builder	0.4
Other Occupations in Bldg. of Aircraft N.E.C. [1]	0.1
5-17 Pattern and Model Makers, Except Paper	1.8
5-17.020 Patternmaker, Wood	0.4
5-17.060 Form Builder	1.2
Other Pattern and Model Makers Except Paper	0.2
5-80, 5-81, and 5-83 Mechanics and Repairmen, Airplane, Motor Vehicle, and Others	3.7
5-80.100 Airplane Mechanic	2.3
5-80.200 Engine Service Mechanic	0.3
5-81.010 Automobile Mechanic	0.9
Other Mechanics and Repairman	0.2
5-92 Foremen	0.3
5-92.411 Foreman, Aircraft Manufacturing	0.3
5-92.768 Foreman, Machine Shop	[2]
6-78 Machine Shop and Related Occupations N.E.C. [1]	1.4
6-78.021 Turret-Lathe Operator, Automatic	0.3
6-78.083 Single-Spindle-Drill-Press Operator	0.3
6-78.632 Floor Assembler	0.4
Other Machine Shop and Related Occupations N.E.C. [1]	0.4
6-88 Occupations in the Mechanical Treatment of Metals (Rolling, Stamping, Forging, Pressing, etc.), N.E.C. [1]	0.4
6-88.622 Punch-Press Operator	0.2
Other Occupations in Mech. Treatment of Metals	0.2
6-94.2 Sheet Metal Occupations N. E.C. [1]	1.6
6-94.202 Sheet-Metal-Fabricating-Machine Opr.	1.4
6-94.207 Brake Operator, Machine	0.2
7-02 and 7-03 Occupations in Manufacture of Automobiles and Aircraft, N.E.C. [1]	34.8
7-02.331 Screw Driver Man, Auto mfg.	1.2
7-03.510 Detail Assembler, Aircraft	18.6

7-03.520 Final Assembler	4.7
7-03.530 Riveter, Aircraft	9.4
7-03.540 Skin Man	0.9
Laborer, Process	3.9
Laborer	5.7
Unskilled, unspecified	2.5
All other Occupations	3.1

1/ Not elsewhere classified.

2/ Less than one-tenth of one percent.

APPENDIX III

Estimated Labor Needs of Employers in Defense Industries Including Aircraft Manufacture, by Selected Occupations July - December 1941

Note: Occupations listed are confined to those found in aircraft manufacture. However, only a few of these are exclusive to aircraft; the others are found in one or more other industries. The next to the last column shows estimated needs of all employers other than aircraft manufacturers; some of these furnish the aircraft industry with equipment.

These estimates are based upon ES-270 reports from the State employment offices, which are compiled from data secured during field visits to employers of 50 or more workers, in industries supplying defense materials. They cover only a part of the concerns employing workers in the occupations listed; and such factors as future curtailment of non-defense production are not wholly reflected in the data. In general, it is believed that these are underestimates. The estimated demand in the aircraft industry given here differs slightly from that given in the text: certain subcontractors who are not primarily engaged in aircraft manufacture, are here included in the compilation of aircraft's demand for labor. Thus included are most of the subcontractors furnishing parts of fuselage.

N.E.C.--Not Elsewhere Classified

Occupation	Code Number	Estimated Demand in Aircraft Industry	Estimated Demand in other Industries	Total Demand
TOTAL		194,403	275,375	469,778
Professional and Kindred	0-	4,967	1,814	6,781
Electrical Engineer	0-17.010	390	259	649
Aeronautical Engineer	0-19.030	1,686		1,686
Draftsman, Aeronautical	0-48.040	655		655
Draftsman, Electrical	0-48.110	650	32	682
Tool Designer	0-48.410	1,416	717	2,133
Other Professional & Kindred		170	806	976
Clerical and Kindred	1-	2,886	3,208	6,094
Clerk, General Office	1-05.010	836	1,692	2,528
Production Clerk II	1-18.660	260	102	362
Stock Clerk II	1-38.010	910	197	1,107
Other Clerical and Kindred		880	1,217	2,097

Occupation	Code Number	Estimated Demand in Aircraft Industry	Estimated Demand in other Industries	Total Demand
Protective and Building Service Workers	2-	434	257	691
Skilled Occupations	4- or 5-	84,560	126,882	211,442
General Woodworking Occupations N.E.C.	4-33	2,470	10	2,480
Airplane Woodworker	4-33.916	2,470	10	2,480
Machinists	4-75	12,335	31,022	43,357
Machinist II	4-75.010	4,550	21,812	26,362
Machinist, Bench	4-75.120	7,682	7,807	15,489
Job Setter II	4-75.160	103	1,403	1,506
Tool Makers, Die Sinkers and Setters	4-76	9,424	11,273	20,697
Die Maker II	4-76.010	1,430	2,900	4,330
Tool Maker	4-76.210	7,588	8,194	15,782
Tool Inspector	4-76.220	406	179	585
Machine Shop and Related N.E.C.	4-78	21,509	41,515	63,024
Engine Lathe Operator	4-78.011	1,425	13,248	14,673
Turret Lathe Operator	4-78.021	2,680	6,871	9,551
Milling Machine Operator II	4-78.031	3,458	7,850	11,308
Boring Mill Operator	4-78.041	1,624	2,775	4,399
Residual Code	4-78.100	1,682	0	1,682
Cylindrical Grinder Operator	4-78.511	1,750	1,747	3,497
Internal Grinder Operator	4-78.512	1,450	1,468	2,918
Inspector, Machine Shop	4-78.671	6,846	2,409	9,255
Other Machine Shop and Related N.E.C.		594	5,147	5,741
Tinsmith, Coppersmiths and Sheet Metal Workers	4-80	23,025	6,639	29,664
Sheet Metal Worker II	4-80.010	4,305	4,753	9,058
Sheet Metal Worker, Aircraft	4-80.050	18,200	1,452	19,652
Other Tinsmiths, etc.		520	434	954
Welders & Flame Cutters	4-85	2,220	16,675	18,895
Welder, Acetylene	4-85.030	1,830	1,028	2,858
Other Welders & Flame Cutters		390	15,647	16,037

Occupation	Code Number	Estimated Demand in Aircraft Industry	Estimated Demand in other Industries	Total Demand
Electricians	4-97	1,300	0	1,300
Electrician, Airplane	4-97.910	1,300	0	1,300
Aircraft Building, N.E.C.	5-03	2,410	181	2,591
Fuselage Frame Builder	5-03.110	650	38	688
Tail-Surface Frame Builder	5-03.140	910	0	910
Wing-Frame Builder	5-03.150	720	43	763
Other Aircraft Building N.E.C.		130	100	230
Pattern & Model Makers Except Paper	5-17	2,481	4,832	7,313
Pattern Maker, Wood	5-17.020	588	1,728	2,316
Form Builder I	5-17.060	1,560	102	1,662
Other		333	3,002	3,335
Mechanics and Repairmen		5,203	705	5,908
Airplane Mechanic	5-80.100	2,990	69	3,059
Engine Service Mechanic	5-80.200	390	0	390
Automobile Mechanic	5-81.010	1,170	52	1,222
Other		653	584	1,237
Foremen	5-92	553	560	1,113
Foreman, Aircraft Mfg.	5-92.411	420	2	422
Foreman, Machine Shop	5-92.768	21	91	112
Foreman, Auto Mfg.	5-92.801	112	467	579
All Other Skilled Occupations		1,660	13,440	15,100
Semiskilled Occupations	6- or 7-	69,034	56,272	125,306
Filers, Grinders, Buffers, Polishers	6-77	1,450	2,107	3,557
Buffer I	6-77.020	58	746	804
Polisher II	6-77.060	58	850	908
Burrer Hand	6-77.510	174	127	301
Bench Grinder	6-77.710	1,160	384	1,544
Machine Shop and Related N.E.C.	6-78	11,969	30,227	42,196
Engine Lathe Operator II	6-78.011	154	51	205
Turret Lathe Operator	6-78.020	390	0	390
Turret Lathe Operator, Automatic	6-78.021	98	1,249	1,347

Occupation	Code Number	Estimated Demand in Aircraft Industry	Estimated Demand in Other Industries	Total Demand
Multiple Spindle Drill Press Operator	6-78.081	290	2,071	2,361
Radial Drill Press Operator	6-78.082	1,334	1,166	2,500
Single Spindle Drill Press Operator	6-78.083	2,420	5,414	7,834
Screw Machine Operator Semi-automatic	6-78.144	290	4,889	5,179
Lapping Machine Operator	6-78.413	124	261	385
Floor Assembler	6-78.632	6,610	10,587	17,197
Other Machine Shop and Related N.E.C.		259	4,539	4,798
Occupations in Mechanical Treatment of Metals N.E.C.	6-88	521	10,801	11,322
Punch Press Operator I	6-88.622	260	4,436	4,696
Forming Press Operator	6-88.627	78	3,972	4,050
Power Shear Operator I	6-88.664	117	2,257	2,374
Other		66	136	202
Sheet Metal Occupations N.E.C.	6-94	2,080	610	2,690
Sheet Metal Fabricating Machine Operator	6-94.202	1,820	538	2,358
Brake Operator, Machine II	6-94.207	260	72	332
Occupations in Mfg. Auto and Aircraft N.E.C.	7-02 or -03	50,240	2,407	52,647
Screw Driver, Man (auto)	7-02.331	1,560	223	1,783
Detail Assembler, Aircraft	7-03.510	27,180	888	28,068
Final Assembler I	7-03.520	8,110	71	8,181
Riveter, Aircraft	7-03.530	12,220	1,225	13,445
Skin Man	7-03.540	1,170	0	1,170
All Other Semiskilled		2,774	10,120	12,894
Unskilled Occupations	8- or 9-	32,492	86,972	119,464
Laborer, Process		5,998	43,395	49,393
Laborer		7,526	10,902	18,428
Unskilled		18,968	32,675	51,643

APPENDIX IV

OCCUPATIONAL COMPOSITION STUDY

A TYPICAL STAFFING SCHEDULE FOR THE MANUFACTURE

OF RADIAL AIRCOOLED ENGINES

May 20, 1941

Note:

The Aircraft Industry is in a state of such rapid development that any study of its occupational composition is necessarily subject to rather extensive modification after the lapse of a very short period.

This study incorporates the most accurate information currently available. It will be revised as further data are obtained concerning new methods of production adopted by the industry.

Explanatory Notes:

Base titles are in all capital letters; referred titles are in lower case with initial capital letters. Titles not defined in the current edition of the Dictionary of Occupational Titles, but tentatively approved for publication in future editions, are indicated by an asterisk (*). Plant titles for which there are no equivalents in the Dictionary, either published or tentative, are indicated by a double asterisk (**).

In interpreting plant titles in terms of Dictionary titles and codes, it was necessary in some instances to select Dictionary titles which, although they adequately reflected the duties represented in the plant titles, were coded on either a higher or lower skill level. Codes signifying skill levels below those represented in plant titles from which conversions were made are indicated by (a); codes signifying skill levels above those represented in plant titles from which conversions were made are indicated by (b).

In several instances two or more Dictionary titles and codes are bracketed together. These are cases in which the duties of workers classified under one plant title are covered by two or more Dictionary classifications. Such workers, therefore, properly receive the dual or multiple classifications indicated.

Base Title: A title to which a code is assigned directly and which establishes an occupational classification.

Referred Title: A title to which no code is assigned directly but which assumes the code of a base title for classification purposes.

Normal Training Period

Each occupation was considered in its entirety rather than in terms of its component parts or job breakdowns. All evaluations were made on the basis of the shortest estimated time required to train physically and mentally suited untrained workers, to reach normal productive capacity, requiring only the normal amount of supervision. Apprenticeable occupations were graded with due consideration for generally accepted apprenticeship standards. The symbols designating the Training Grade are as follows:

A = More than two years
B = One year to two years
C = Six months to one year
D = Two months to six months
E = Less than two months
N.A. = Information not available

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
----	**Assembler, Helper	.07	E
7-60.500	AUTOMOBILE-SERVICE-STATION ATTENDANT	.02	E
----	**Back Spot Face Operator	.07	E
6-78.915 (b)	BALANCING-MACHINE OPERATOR	.06	D
7-83.611	BELTMAN I	.06	E
6-78.632	Bench Assembler III	3.27	D
6-78.632 (b)	Bench Assembler III	.42	D
----	Blueprinting[1]/	.44	N.A.
6-78.041	BORING-MACHINE OPERATOR, AUTOMATIC	.32	E
6-78.041 (b)	BORING-MACHINE OPERATOR, AUTOMATIC	.09	E
4-85.310 (b)	BRAZER	.11	D
6-77.020	BUFFER I	.70	E
6-77.020 6-77.060	BUFFER I) POLISHER II)	.40	E
6-77.020 (a) 6-77.060 (a)	BUFFER I) POLISHER II)	.77	E
6-77.510	BURRER, HAND	2.07	E
6-77.510 (b)	BURRER, HAND	1.88	E
5-80.300 (b)	CARBURETOR MAN I	.02	C
5-25.830 (b)	CARPENTER, MAINTENANCE	.16	B
6-78.511	CENTERLESS-GRINDER OPERATOR	.14	E
2-82.10	CHARWOMAN	.07	E
6-78.021	Chucking-Machine Operator, Automatic	.10	E
6-78.612	CIRCULAR-SAWING-MACHINE OPERATOR	.09	E
9-65.64	Cleaner (mach. shop)	.07	E
----	**Degreaser-Tank Maintenance	.01	D
----	**Disassembler	.80	D
----	**Driller-Helper-Multiple-Spindle	.06	E
4-99.411 (b)	DYNAMIC BALANCER	.04	B
7-02.713 (a)	DYNAMOMETER TESTER, MOTOR	.26	D
7-88.410	ELECTRIC-TRUCK OPERATOR	.04	E
7-88.410 (b)	ELECTRIC-TRUCK OPERATOR	.10	E
4-97.420	ELECTRICAL REPAIRMAN	.40	B
4-97.420 (b)	ELECTRICAL REPAIRMAN	.06	B
9-65.43 (a)	Electrician Helper I	.06	E
----	Employment & Welfare[1]/	.30	N.A.
4-78.011	ENGINE-LATHE OPERATOR I	2.59	B
6-78.011	*ENGINE-LATHE OPERATOR II	.71	D
6-78.011 (b)	*ENGINE-LATHE OPERATOR II	.16	D

1/ Plant functional title for which no occupational breakdown is available.

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
----	**Engineer Assistant (power plant)	.05	B
----	Engineering & Experimental[1]/	4.44	N.A.
6-93.333 (b)	ETCHER, MACHINE	.15	D
4-78.511	External-Cylindrical-Grinder Operator	.07	D
4-78.511 (b)	External-Cylindrical-Grinder Operator	.51	D
6-78.513	EXTERNAL-GRINDER OPERATOR I	2.12	D
----	Factory Accounting[1]/	1.44	N.A.
6-78.632	FLOOR ASSEMBLER	4.90	D
6-78.632 (b)	FLOOR ASSEMBLER	.04	D
4-76.220	Gage Inspector	.06	A
4-78.131	GEAR-GENERATOR OPERATOR I	.04	C
6-78.133 (b)	*GEAR-GENERATOR OPERATOR II	.24	D
6-78.134 (b)	*GEAR-HOBBER OPERATOR II	.12	D
6-78.413	Gear-Lapping-Machine Operator	.12	D
7-02.716 (a)	GEAR ROLLER	.05	E
6-78.136	*GEAR-SHAPER OPERATOR II	.52	D
6-78.136 (b)	*GEAR-SHAPER OPERATOR II	.07	D
6-78.132	GEAR-TOOTH GRINDER	.01	D
6-78.132 (a)	GEAR-TOOTH GRINDER	.72	D
6-78.131	GEAR-TOOTH ROUNDER	.06	D
----	General Accounting & Treasury[1]/	.51	N.A.
----	General Office[1]/	.46	N.A.
9-02.01	Greaser II	.02	E
6-77.040	GRINDER (auto. mfg.)	2.37	E
6-77.040 (b)	GRINDER (auto. mfg.)	1.62	E
3-40.04	GROUNDS KEEPER I	1.49	E
8-78.10 (a)	Hacksawing-Machine Operator	.02	E
4-87.220	HARDENER II	.11	D
----	**Hardener-Helper	.33	E
4-78.411 (b)	HONING-MACHINE OPERATOR	.16	C
6-78.412 (b)	HONING-MACHINE OPERATOR, SEMI-AUTOMATIC	.06	E
4-78.041	Horizontal-Boring-Mill Operator	.06	C
9-65.43 (a)	Incinerator Man I	.02	E
----	Inspection[1]/	.55	N.A.
4-78.671	INSPECTOR (mach. shop)	.97	A
4-78.671 (b)	INSPECTOR (mach. shop)	1.26	A
----	**Inspector-Final Assembly	.13	B
----	**Inspector-Helper	.46	E
----	**Inspector-Helper-Magnaflux	.21	D

1/ Plant functional title for which no occupational breakdown is available.

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
----	**Inspector-Helper-Raw Stock	.10	E
----	**Inspector (Magnaflux)	.91	C
----	**Inspector-Mechanical	1.51	B
----	**Inspector-Oil Analysis	.05	E
----	**Inspector-Purchased Parts	.24	C
----	**Inspector-Raw Stock	.61	C
----	**Inspector-Salvage	.11	C
----	**Inspector-Test Engines	.13	A
----	**Inspector-Work-in Progress	1.13	C
----	**Inspector or Checker-Purchased Parts	.95	E
----	**Inspector or Checker (women)	.67	E
4-78.512	INTERNAL-GRINDER OPERATOR I	.32	C
6-78.523	*INTERNAL-GRINDER OPERATOR II	1.91	D
6-78.523 (a)	*INTERNAL-GRINDER OPERATOR II	.13	D
2-84.10	JANITOR I	.13	E
4-75.160	JOB SETTER II	.02	A
----	**Laborer	.32	E
9-32.21 (a)	Laborer, Carpentry)		
7-32.811	PIPE-FITTER HELPER)	.20	E
----	**Laborer, Test	.02	E
----	**Lapper Helper (Cincinnati centerless Lapper)	.07	E
6-78.413 (a)	LAPPING-MACHINE OPERATOR	.07	D
6-78.413	LAPPING-MACHINE OPERATOR	.07	D
4-75.140 (b)	Lay-Out Man (mach. shop)	.06	A
----	**Lay-Out Man-Inspector (Raw Stock)	.07	B
4-75.010	MACHINIST II	.50	A
4-75.010 (b)	MACHINIST II	.05	A
4-75.120	MACHINIST, BENCH	.63	A
8-78.10 (a)	Machinist Helper	.04	D
4-75.010	Machinist, Maintenance	.45	A
4-75.010 (b)	Machinist, Maintenance	.04	A
----	Maintenance Supervision[1]/	.20	N.A.
----	Materials & Dispatching[1]/	1.11	N.A.
----	**Mechanic-Spark Plug	.01	C
----	Medical & First Aid[1]/	.12	N.A.
----	Metallurgical[1]/	.72	N.A.
4-78.031	MILLING-MACHINE OPERATOR II	.48	C
4-78.031 (b)	MILLING-MACHINE OPERATOR II	.32	C
6-78.031	MILLING-MACHINE OPERATOR, AUTOMATIC	3.27	E
6-78.031 (b)	MILLING-MACHINE OPERATOR, AUTOMATIC	.11	E

1/ Plant functional title for which no occupational breakdown is available.

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
5-78.100	MILLWRIGHT	.12	A
6-78.081	MULTIPLE-SPINDLE-DRILL-PRESS OPERATOR	.04	D
6-78.081	MULTIPLE-SPINDLE-DRILL-PRESS) OPERATOR)	6.55	D
6-78.083	SINGLE-SPINDLE-DRILL-PRESS) OPERATOR)		
6-78.081 (a)	MULTIPLE-SPINDLE-DRILL-PRESS) OPERATOR)	.04	D
6-78.083 (a)	SINGLE-SPINDLE-DRILL-PRESS) OPERATOR)		
6-78.081 (b)	MULTIPLE-SPINDLE-DRILL-PRESS) OPERATOR)	.12	D
6-78.083 (b)	SINGLE-SPINDLE-DRILL-PRESS) OPERATOR)		
----	**Oil & Coolant Handler	.15	D
9-65.64 (a)	Oil Extractor	.02	E
9-71.01 (a)	OILER I	.01	E
9-65.64 (a)	Order Filler	.29	E
8-78.10	Packer (any ind.) II	.11	E
8-87.10 (a)	Packer (any ind.) II	1.88	E
9-32.21	Painter Helper	.26	E
9-32.21 (a)	Painter Helper	.06	E
5-27.010	Painter, Maintenance	.17	C
7-16.210	PAINTER, SPRAY I	.71	D
7-32.811	PIPE-FITTER HELPER See (Laborer, Carpentry (PIPE-FITTER HELPER		E
5-30.010	Pipe Fitter, Maintenance	.11	C
4-74.010	PLATER I	.18	D
6-77.060	POLISHER II See (BUFFER I (POLISHER II	.29	E
6-77.020 (b)	Polisher, Wheel	.04	E
2-86.20	PORTER II	1.28	E
5-51.010	POWER-HOUSE ENGINEER	.06	A
----	Production Engineering[1]/	1.31	N.A.
6-88.622 (a)	PUNCH-PRESS OPERATOR I	.06	D
6-88.624	PUNCH-PRESS OPERATOR, AUTOMATIC	.01	E
----	Purchasing[1]/	.50	N.A.
6-78.082	RADIAL-DRILL-PRESS OPERATOR	2.12	D
----	Sales Order[1]/	.41	N.A.
----	Sales & Service[1]/	.74	N.A.

1/ Plant functional title for which no occupational breakdown is available.

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
6-82.720	SANDBLASTER I	.30	D
8-78.10 (a)	Screw-Machine Operator, Automatic	.27	E
6-78.144	SCREW-MACHINE OPERATOR, SEMIAUTOMATIC	.26	E
----	Service Students & Apprentices[1]/	.67	N.A.
----	Shipping & Receiving[1]/	.02	N.A.
----	Shop Supervision[1]/	1.71	N.A.
6-78.083	SINGLE-SPINDLE-DRILL-PRESS OPERATOR	.15	D
	See (MULTIPLE-SPINDLE-DRILL-PRESS (OPERATOR (SINGLE-SPINDLE-DRILL-PRESS (OPERATOR		
	See (MULTIPLE-SPINDLE-DRILL PRESS (OPERATOR (a) (SINGLE-SPINDLE-DRILL-PRESS (OPERATOR (a)		D
	See (MULTIPLE-SPINDLE-DRILL PRESS (OPERATOR (b) (SINGLE-SPINDLE-DRILL-PRESS (OPERATOR (b)		D
4-78.061 (b)	Slotter I)	.11	C
4-78.031	Slotter II)		C
4-78.031	Slotter II		C
	See (Slotter I (Slotter II		
----	Standards & Time Study[1]/		N.A.
1-38.01	STOCK CLERK II	.74	E
----	Storeroom[1]/	.18	N.A.
6-88.612	STRAIGHTENING-PRESS OPERATOR	.10	D
6-78.165	STUB-LATHE OPERATOR	.40	D
4-78.513	SURFACE-GRINDER OPERATOR I	.12	D
6-78.522	*SURFACE-GRINDER OPERATOR II	.89	D
6-78.671	TESTER (found.; mach. shop) I	.12	D
----	**Tester-Assistant-Engines	.76	B
----	**Tester-Carburetor	.06	A
----	**Tester-Cold Run	1.73	B
----	**Tester-Endurance-Single Cylinder	.16	B
----	**Tester-Engines-Rigid Stand-16'	.10	A
----	**Tester-Engines-Rigid Stand-(18'-24')	.26	A

1/ Plant functional title for which no occupational breakdown is available.

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
----	**Tester-Final-Engines	1.17	A
----	**Tester-Green-Engines	1.91	B
----	**Tester-Laboratory	.04	D
6-78.516	THREAD GRINDER	.20	E
6-78.143	THREAD-MILLING-MACHINE OPERATOR	.44	E
1-38.05	TOOL CLERK	1.32	E
5-84.110	TOOL-GRINDER OPERATOR	.27	C
5-84.110 (b)	TOOL-GRINDER OPERATOR	1.20	C
4-76.220	TOOL INSPECTOR	.21	A
4-76.220 (b)	TOOL INSPECTOR	.02	A
4-76.210	TOOL MAKER	.88	A
4-76.210 (b)	TOOL MAKER	.04	A
----	Tool Room & Tool Crib[1]/	.04	N.A.
4-76.220	Tool-Salvage Man	.04	A
----	**Toolmaker-Helper	.22	D
9-65.64	Trucker, Hand	.10	E
6-95.053 (a)	TUBE-BENDING-MACHINE OPERATOR I	.01	D
6-95.053 (b)	TUBE-BENDING-MACHINE OPERATOR I	.09	D
4-78.021	TURRET-LATHE OPERATOR	1.99	C
6-78.021	TURRET-LATHE OPERATOR, AUTOMATIC	1.59	E
6-78.021 (b)	TURRET-LATHE OPERATOR, AUTOMATIC	.17	E
4-78.041	Vertical-Boring-Mill Operator	1.05	C
4-78.041 (b)	Vertical-Boring-Mill Operator	.04	C
----	**Washer-Etcher	.02	D
9-02.01	Washing-Machine Operator II	.12	E
9-02.01 (a)	Washing-Machine Operator II	.32	E
----	Watchmen & Guards[1]/	..07	N.A.
4-85.030	WELDER, ACETYLENE	.04	D
4-85.030	WELDER, ACETYLENE)		
4-85.020	WELDER, ARC)	.07	D
4-85.030 (b)	WELDER, ACETYLENE)		
4-85.020 (b)	WELDER, ARC)	.02	D
4-85.020 (b)	WELDER, ARC		D
	See (WELDER, ACETYLENE (WELDER, ARC		

1/ Plant functional title for which no occupational breakdown is available.

APPENDIX V

OCCUPATIONAL COMPOSITION STUDY

ESTIMATED STAFFING SCHEDULE FOR THE
ASSEMBLY OF ALL-METAL AIRPLANES
April 7, 1941

(The assembly of airplanes includes the joining together of fabricated parts into subassemblies--e.g. fuselage, wings, tail units--and the joining of these subassemblies, the installing of motors, guns, bomb racks and other units to form complete airplanes.)

See Appendix IV; Note and Explanatory Notes

E.S. Code Number	Occupational Title	Percentage of Total Number of Workers	Training Grade
5-03.810	AIRPLANE INSPECTOR	8.16	A
5-80.100	AIRPLANE MECHANIC	1.21	B
5-80.500	AIRPLANE RIGGER	.91	C
	*Armorer	1.21	N.A.
7-02.352	BUCKER-UP I	8.92	E
7-03.510	DETAIL ASSEMBLER	5.14	E
4-97.910	ELECTRICIAN, AIRPLANE	4.24	D
7-03.520	FINAL ASSEMBLER I	12.71	E
5-03.110	FUSELAGE-FRAME BUILDER	7.19	B
7-89.363	PAINT BOY	.23	E
7-16.550	PAINT-TOUCH-UP MAN	.98	E
	*Painter helper	1.07	E
5-27.910	PAINTER, SIGN	.42	C
7-16.210	PAINTER, SPRAY I	.91	D
5-03.120	RIB-FRAME BUILDER	3.03	B
7-03.530	RIVETER, AIRCRAFT	8.92	D
7-03.540	SKIN MAN	6.35	D
5-03.130	SPAR BUILDER	3.03	B
9-65.43	Stencil Cutter, Hand	.06	E
5-03.140	TAIL-SURFACE-FRAME BUILDER	3.03	B
4-35.720	UPHOLSTERER II	.61	B
4-85.030	WELDER, ACETYLENE	2.12	D
4-85.020	WELDER, ARC	.30	D
4-85.020	Welder, Aluminum	.76	D
4-85.030	Welder, Aluminum	.16	D
4-85.040	WELDER, COMBINATION	.30	D
5-03.150	WING-FRAME BUILDER	3.03	B
	Administrative, supervisory, research engineering, clerical, and maintenance	15.00	N.A.
	TOTAL	100.00	

APPENDIX VI

LIST OF IMPORTANT OCCUPATIONS FOR THE MANUFACTURE OF CONTROLLABLE-PITCH AIRPLANE PROPELLERS

(Tentative and preliminary list)

This is a list of the more important process jobs in the manufacture of controllable-pitch metal propellers, in terms of the United States Employment Service Dictionary of Occupational Titles. The use of many special machines in this industry presented difficulties, but in most of these cases conversions were made to machines of a more basic type. Three titles not in the Dictionary were added: they are "Magnaflux Operator", "Nitriding Furnace Operator", and "Portable Milling Machine Operator." Maintenance, clerical, and administrative jobs were omitted as are all unskilled process occupations. Data are not yet available for an occupational composition study in this branch, such as is given for the two other branches.

Only base titles and referred titles appear in this list (except for the non-Dictionary titles). Base titles are capitalized. Referred titles are in lower case with initial capitals.

Training Grade: See Appendix IV for symbols

E.S. Code Number	Occupational Title	Training Grade
6-78.915	BALANCING-MACHINE OPERATOR	D
6-77.710	BENCH GRINDER	D
6-78.041	BORING-MACHINE OPERATOR, AUTOMATIC	E
4-78.041	BORING-MILL OPERATOR	B
6-77.020	BUFFER I	E
6-77.510	BURRER, HAND	E
4-87.210	CASE-HARDENER	C
6-78.152	CENTERING-MACHINE OPERATOR	E
6-78.021	CHUCKING-MACHINE OPERATOR, AUTOMATIC	E
6-87.210	CYANIDE-FURNACE OPERATOR	D
4-76.120	DIE SETTER, DROP HAMMER	A
6-86.110	DROP-HAMMER OPERATOR I	D
4-86.110	DROP-HAMMER OPERATOR II	C
4-86.110	DROP-HAMMER OPERATOR III	C
4-76.011	ENGINE-LATHE OPERATOR I	B
4-78.131	GEAR-GENERATOR OPERATOR II	D

E.S. Code Number	Occupational Title	Training Grade
4-87.220	Gear Hardener	N.A.
4-78.132	GEAR-HOBBER OPERATOR I	D
4-78.133	GEAR-MILLING-MACHINE OPERATOR I	C
4-78.134	GEAR-SHAPER OPERATOR I	C
4-86.120	HAMMERSMITH	B
4-87.910	HARDNESS INSPECTOR	B
4-87.010	HEAT TREATER II	D
6-88.732	Heater, Drop Forge	N.A.
4-78.031	Horizontal-Milling-Machine Operator	B
6-78.083	Hydraulic-Feed-Drill Operator	N.A.
4-78.671	INSPECTOR (mach. shop)	A
4-78.512	INTERNAL-GRINDER OPERATOR	C
4-76.210	Jig Maker II	A
4-75.160	JOB SETTER II	A
4-75.010	MACHINIST II	A
4-75.120	MACHINIST, BENCH	A
	*Magnaflux Operator	N.A.
6-78.081	MULTIPLE-SPINDLE-DRILL-PRESS OPERATOR	D
	*Nitriding Furnace Operator	N.A.
7-16.210	PAINTER, SPRAY I	D
6-77.060	POLISHER II	E
6-77.060	Polisher, Belt	E
	*Portable Milling Machine Operator	N.A.
4-78.111	PROFILING-MACHINE OPERATOR	C
5-80.400	PROPELLER MECHANIC	D
4-78.011	Roughing-Lathe Operator	C
6-78.083	SINGLE-SPINDLE-DRILL-PRESS OPERATOR	D
6-78.051	Spliner Operator	D
4-78.513	SURFACE-GRINDER OPERATOR I	D
4-87.410	SWITCHBOARD OPERATOR II	E
6-78.143	THREAD-MILLING-MACHINE OPERATOR	E
5-84.110	TOOL-GRINDER OPERATOR	C
4-76.210	TOOL MAKER	A
4-78.021	TURRET-LATHE OPERATOR	C
4-78.511	UNIVERSAL-GRINDER OPERATOR	C
4-78.041	Vertical-Boring Mill Operator	C
4-78.022	VERTICAL-TURRET-LATHE OPERATOR	C
6-85.020	WELDER, BUTT	D

* Not in Dictionary of Occupational Titles.

WOMEN'S BUREAU
U.S. Department of Labor
Washington, D. C.

#2, 4

(From Occupations, November, 1941)

WOMEN PUT THEIR SHOULDERS TO THE WHEEL

A woman who has been a teacher, singer, insurance office clerk, receptionist and assistant in a surgeon's office, and a scorer of intelligence tests is now more happily employed than ever before and earning more money, inspecting piston pins at an aircraft factory that employs more than 20,000 persons.

Of the 1,000 or more inspectors in that factory, 600 are women who start at a beginning wage of 50 cents an hour, with general pay increases at intervals up to an existing by unstated maximum of 90 cents an hour. The working week is 40 hours (8 hours a day), with no overtime or night work permitted.

The company estimates that it costs $200 and requires 6 months to train a woman inspector to achieve capacity output. The company has been employing women inspectors for 17 years. The senior woman worker has been on the payroll 10 years.

The work involves finished inspection of the following: piston pins, knuckle pins, pipes, tappetts, tappett guides, rockers, pistons (though this latter is usually a man's job because it is a complicated series of inspections).

In the inspection these types of measuring devices are used: scales, ring gauges, length gauges, snap gauges, plug gauges, electric gauges, (for concontricity to ten-thousandths of an inch rolled under diamong), micrometers, calipers, Girls check blueprints and a course in blueprint reading is offered. Shadowgraph projection is also used.

Since accuracy to ten-thousandths of an inch is required, the girls are supposed to be high school graduates, but recently experience in other shops has been accepted. There are a few college graduates, with an occasional mathematics major.

A full-time personnel manager directs the Inspection Department. The girls that he hires must be 18 years of age or over. At present no finger dexterity tests are administered. If the girls learn to inspect efficiently the first article to which they are assigned, they are kept on that same bench year after year. If, however, they have difficulty in adjustment, they are transferred until they can attain satisfactory output.

The girl inspectors are above average for factory workers. They earn better wages than the aircraft office workers and accordingly dress better outside the plant. Rarely are inspectors discharged, but they may be asked to resign. The turnover is almost negligible.

PLANT TO HIRE FIRST WOMEN

Consolidated Swamped with Applications for Jobs Building Planes

San Diego, Aug. 16. -- Swamped by almost 2000 applications from women, Consolidated Aircraft Corp. employment officials today announced that the huge plant's first female factory workers probably will be hired within the next 30 days.

Factory facilities for the first group of 300 to 400 women are being prepared at both the general assembly plant and the new $15,000,000 structure nearing completion less than a mile distant, where parts and subassemblies will be fabricated.

CHIC ATTIRE

Attired in chic royal blue zipper slack suits with short-sleeved polo-type shirts, the women will be employed in manipulating switches, grouping of wires in electrical assembly, light riveting with stationary engines, subassemblies on wings and fuselages, metal tubing, seat upholstering and fabric covering of the trailing edges of wings and rudders.

Some even will be assigned as inspectors, in which positions they will have the privilege of ordering male workers to improve on certain jobs, plant officials declared.

INSTRUCTORS READY

Training of the women will be performed in the plants, with veteran men employees doing the instructing.

Consolidated has announced a policy of hiring only wives and relatives of men already on the pay rolls, in order to boost family morale and to avoid attracting women from out of town and disrupting the other San Diego industries employing women.

It was indicated today that as many as 2000 of the fair sex will be hired the next year, when Consolidated's San Diego pay roll, now at the 21,500 mark, will be increased to approximately 40,000.

From TIMES, Los Angeles, Calif. Aug. 17, 1941

Skilled Women Sew Fabrics For Bombers and Clippers

In Seattle Times, June 22, 1941

At the Boeing Aircraft Company plants thousands of men are building planes---giant Flying Fortress bombers already marked as the nation's chief air weapon, spacious Clipper ships capable of spanning oceans in a few hours, speedy, twin-engined DB-7B attack bombers for the British.

But women are building these great air arms of a nation's defense, too. In three small shops---one in Plant No. 1, two in Plant No. 2--they are doing their bit.

There are women, for instance, like Miss Dorothy Wilson, 21 years old, who has worked in the Plant No. 1 fabric and upholstery shop only since last January, but she knows her work and she knows its importance. Upon Miss Wilson and forty other women---some young like her, some with children as old as she---falls the responsibility of covering the all-important control surfaces of the Clippers and portions of the huge wing surfaces with fabric, of preparing the felt and fabric linings of both the Clippers and the Flying Fortresses. Once Miss Wilson worked in a tailor shop. That was before the tempo of airplane production in America was quickened to unprecedented heights, before Boeing started reaching out into tailor and seamstresses' shops for women with fingers quick and minds alert, to augment its fabric and upholstery shop crews.

Another typical employe is Mrs. Caroline Nelsen who has worked for Boeing thirteen years, and on whose blouse a Boeing ten-year service pin gleams proudly, always. It will be a fifteen-year pin soon. Mrs. Nelsen's service dates back to the days when fabric was used for covering the entire surface of an airplane, before improved metals and engineering relegated it to the interior and a comparatively few exterior functions.

Those exterior functions, however, are important. The surfaces on which the fabric goes---rudder elevators, ailerons--control the flight of the air giants. When they fail, the ship fails. Because the stress is not great, fabric still is used for covering the control surfaces. On the Flying Fortresses, however, this work is done by Boeing's Stearman Division at Wichita, Kas. On the Clippers, and DB-7Bs, it is done here. On the Clippers, Boeing's Seattle women do the whole job--interior, part of the wing surfaces, control surfaces. As the Clippers near complete assembly, the women go to work on the big wing sections, some on top of the wing pushing needle and thread through, some below the wing pushing them back. Neat, trim stitches to help a giant, man-made bird wing across the oceans.

On big tables in the fabric and upholstery shops, layout men mark the felt and fabric with which the Flying Fortresses and Clippers are lined. Then come the women, with their shears and their thimbles, their sewing machines and their irons. And soon the lining sections are ready for installation. Inside the Clippers, a layer of glass wool--selected because it does not absorb water on the long ocean hops--goes under the felt, next to the metal. On top of the felt goes the fabric in attractive green or beige "map-of-the-world" patterns. The surface fabric is so installed that it can be removed for cleaning with a few pulls at mechanical fasteners. Inside the Flying Fortresses, the felt, followed by the fabric, goes over a layer of another material, known by the trade name of "Seapak."

WOMEN'S BUREAU
U.S. Department of Labor
Washington, D. C.

DEFENSE INDUSTRIES: AVIATION

Woman's Touch Invades the Aircraft Industry Here

(In Beacon Journal, October 2, 1940)

Akron. -- The feminine element has moved into the aircraft industry, as is demonstrated by girls working at the Akron Aircraft Co. Some weld everything from wing bows and rudder parts to the fitting for fuselage cells, others cut the felt for cushions, and work at machines on the wings for the planes; some splice cables. . . . . .

The head of the welding department, has to admit that the girls do as good work as the men welders. . . . . (Pictures).

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Women, Sewing Wings for Sikorsky Warplanes, Find 'Job for Experts' Tops Needlework at Home

(In Bridgeport, Conn., Post, February 25, 1941)

Bridgeport. -- "A stitch in time saves the nation."

That's the slogan suggested by the airplane seamstresses at Vought-Sikorsky, working at maximum efficiency on government defense orders.

Seamstresses in the airplane factory give speed and lightness to Uncle Sam's airplanes sewing Grade A cotton on wings, tails, fuselages.

The women, who sew the wings on which pilots will rise to defend the country, say they like their jobs. They are the only women employed, except those in the offices. (Pictures).

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Akron's Women Do Their Full Share of Work to Make Uncle Sam Invincible

(In Cleveland Plain Dealer, March 4, 1941)

Akron. -- Women are taping the seam of a barrage balloon.

Women are putting the finishing touches to flotation bags at Goodyear. These bags are essential to the protection of land planes when they are forced down on water. . . . . (Pictures).

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DEFENSE INDUSTRIES: AVIATION

Feminine Fingers Fly in Defense As Girls Inspect Engine Parts

In Trade Winds (Wright Aeronautical Corporation), April 1941, page 14.

Feminine fingers as supple as a surgeon's and deft as a sculptor's are playing a most important role in the National Defense program--for in their sensitivity lies the fate of American aviators, their crews and thousands of civil passengers. Tens of millions of engine pieces will pass through these fingers for inspection this year before becoming a part of the Wright Cyclone and Whirlwind aircraft engines so vital to the defense program.

Young women in vendor's inspection--as the department is called--are responsible for the primary testing to tolerances as close as five ten-thousands of an inch of the parts supplied to the company by outside manufacturers.

Clad in their blue starched cotton uniforms with white collars and cuffs, the more than three score girls have the appearance of students in a large class as they work at individual benches extending in rows across the light, airy room.

Every day more than 105,000 parts pass through these young women's fingers, 630,000 parts a week, 32,760,000 parts in a year--truly a staggering figure.

Vital parts of the engine--valve guides, valve seats, rocker rollers, roller pins, ball sockets, push rods, ball ends, adjusting screws, rocker hub bolts, studs, screws, nuts, bolts, valve tappet rollers, valve spring washers, locks and connections--are all primarily inspected by these women workers in defense.

When it is considered that the majority of the parts must be correct up to five thousandths of an inch, some idea can be gained of the skill required. But inspection in this department is not wholly dependent on the fingers, hands, and eyes of these women. Machines, calibrated to the ten-thousandth of an inch (a human hair is three one-thousandths) also play their part.

Hardness testing machines, go and no-go gauges, visual tests, and magnetic type inspections are used to insure extreme exactness in the parts supplied to the Wright Aeronautical Corporation by vendors.

Set to their limits, the inspection machines do not falter and parts which do not meet with the precision tolerances demanded by Wright Aeronautical are rejected to be reworked or permanently discarded.

However, it is realized that even these accurate machines may get out of adjustment and at frequent intervals--on some machines six times a day--expert checkers test the equipment.

Master plugs and gauges are tested by using Johanesson blocks, and Rockwell test blocks are used to keep the hardness machines up to NAC standards.

There are no "easy" jobs in vendor's inspection. Every one is of difficult nature, due to the closeness of limits and tolerances. The reading of the visual indicators, Rockwell hardness machines, and the setting up of plate indicators are all highly specialized types of work performed by these girls.

With the emphasis on National Defense the vendor's inspection department has grown in proportion to the rest of the plant. Where only a handful of girls worked at the outbreak of the present war, sixty-eight are now employed.

These girls are also aided by 36 young men who work out the second and third shifts because the New Jersey State Employment Laws restrict women from working before 7 o'clock in the morning and after 12 midnight.

Vendor's inspection forms a small but vital part of the extensive inspection operations in the plants of Wright Aeronautical. Some idea of the importance of this department can be obtained from the fact that more than 50,000 inspections are necessary for the production of a single Wright Cyclone 14. (Pictures).

WOMEN IN SHOP WORK IN AVIATION

The Aviation News Committee survey revealed that the following airplane and engine plants are among those employing women shop workers at present:

Aeronca	Fairchild	Solar
Beech	Fleetwings	Taylorcraft
Boeing	Hayes	Vultee
Cessna	Howard	United Aircraft
Culver	Lycoming	Wright Aeronautical
Curtiss	North American	
Douglas	Porterfield	

The Aviation News Committee announced "more and more women are now proving that feminine dexterity can perform faster and more efficiently certain tasks until recently reserved for male workers . . . The Sperry Gyroscope Company is a pioneer in the employment of women in large numbers."

-- New Haven, Conn. Register, June 15, 1941

Skilled Women Sew Fabrics For Bombers and Clippers

In Seattle Times, June 22, 1941

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OCCUPATIONS

AIRCRAFT - 1942

11/14/42

Productive Women Employees in Principal Aircraft Plants

(not original copy and not checked back to statistical copy) 11/30/42

Date	All Women	Productive women employees in plants manufacturing - Airframes: Number of women	Airframes: Per cent	Engines: Number of women	Engines: Per cent	Propellers: Number of Women	Propellers: Percent 1/
1941							
December	4,302	3,718	2.0	584	1.0	0	
1942							
January	6,941	6,242	3.0	695	1.0	4	2/
February	11,215	10,099	4.0	1,100	2.0	16	2/
March	16,390	14,227	5.0	2,081	2.0	82	1.0
April	20,448	17,629	6.0	2,553	4.0	266	2.0
May	28,534	24,359	8.0	3,690	4.0	485	4.0
June	39,334	33,866	11.0	4,742	5.0	726	5.0
July	49,904	43,432	13.0	5,535	5.0	937	6.0
August	62,810	54,580	16.0	7,078	6.0	1,152	7.0
September	86,033	76,258	20.0	8,462	7.0	1,313	8.0
October	117,931	104,662	26.0	11,663	10.0	1606	9.0
November	148,923	131,184	30.0	15,656	12.0	2083	11.0
December	168,969	147,647	31.0	18,921	14.0	2421	13.0

11/p:42

1/ Percent of total productive workers.

2/ Less than 1 percent.

Note: Number and percent must never be used together, as from these figures total employment in the aircraft industry could be computed.

Note: November. A special notice was received with November report, prohibiting the transmission of data to unauthorized persons:- Do please use with discretion.

3/ California - Dec. 49,929 women
67,005 "

Confidential, for Staff use only (not original copy and not checked back to statistical setup) 11/30/42

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

See States for Dec.

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0	26.0	30.0
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3	31.5	37.4
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0	47.0	54.0
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0	34.0	38.0
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0	36.0	42.0
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0	36.0	42.0
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0	18.0	22.0
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0	28.0	35.0
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0	19.0	23.0
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0	21.0	30.0
9								5.0	3.0	3.0	9.0	-
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0	27.0	37.0
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0	29.0	31.0
12								~~6.0~~ 2.0			9.0	9.0
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0	31.0	31.0
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0	22.0	28.0
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0	44.0	45.0
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0	39.0	41.0
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0	23.0	23.0
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0	6.0	10.0
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0	31.0	35.0
20					2.0	2.0	2.0	10.0	15.0	16.0	19.0	24.0
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0	17.0	24.0
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0	16.0	18.0
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0	17.0	17.0
25		20.7	23.8	24.0	24.0							
26								8.0	10.0		26.0	29.0
27										13.0	23.0	28.0
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0	21.0	24.0
29							9.0	13.0				
30								13.0				
31					11.0	10.0	11.0	8.0		14.0	17.0	20.0
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0	13.0	13.0
33	.8	.8	.7	1.0	2.0	2.0					10.0	
34								~~2.0~~			-	44.0
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0	20.0	27.0
36								8.0	21.0	15.0	17.0	21.0
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0	37.0	42.0
38				17.0		20.0	20.0	21.0	21.0	24.0	24.0	27.0
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0	21.0	24.0
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0	27.0	26.0
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0	24.0	27.0
42		.1	.1				1.0	1.0	2.0	6.0	9.0	14.0
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0	35.0	35.0
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0	20.0	20.0
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0	24.0	24.0
47								20.0			16.0	20.0
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

49.

37.0 39.0 11/30/42

* Largest number in any plant.

11/17/42

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1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					11.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13				14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0	
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20						2.0	2.0	2.0	10.0	15.0	16.0	
21									10.0	22.0		
22	.3	.3	.3			2.0	5.0	8.0	10.0	12.0	15.0	
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20						2.0	2.0	2.0	10.0	15.0	16.0	
21									10.0	22.0		
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	19.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
13				14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0	
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	3.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	19.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0		
Calif. Total	2.8	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other 13			14.0	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
states 14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20						2.0	2.0	2.0	10.0	15.0	16.0	
21									10.0	22.0		
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							8.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	28.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other 13 States			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	19.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	3.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	29.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	18.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
[redacted]												
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	Jan.	Feb.	March	1942 April	May	June	July	August	Sept	Oct.	Nov.
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		
Calif. Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

11/17/42

PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		
Calif.												
Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3		
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0		
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0		
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0		
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0		
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0		
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0		
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0		
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0		
9								5.0	3.0	3.0		
10	4.5	6.4	8.0	9.0	10.0	11.0	12.0	14.0	15.0	19.0		
11	11.9	12.1	13.8	15.0	15.0	19.0	19.0	22.0	22.0	27.0		
12								6.0				
Other States 13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0		
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0		
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0		
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0		
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0		
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0		
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0		
20					2.0	2.0	2.0	10.0	15.0	16.0		
21								10.0	22.0			
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0		
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0		
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0		
25		20.7	23.8	24.0	24.0							
26								8.0	10.0			
27										13.0		
28	2.4	6.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0		
29							9.0	13.0				
30								13.0				
31					1.0	10.0	11.0	8.0		14.0		
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0		
33	.8	.8	.7	1.0	2.0	2.0						
34								2.0				
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0		
36								8.0	21.0	15.0		
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0		
38				17.0		20.0	20.0	21.0	21.0	24.0		
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0		
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0		
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0		
42		.1	.1				1.0	1.0	2.0	6.0		
43		2.8	6.3	11.0	8.0	9.0	6.0					
44			15.4			26.0	29.0	29.0	29.0	28.0		
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0		
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0		
47								20.0				
48							5.0	6.0				

Source - Materiel Command, Army Air Forces

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A. M. RELEASE--
SATURDAY, AUG. 1

A survey by the Aeronautical Chamber of Commerce of America shows that more than 39,000 women are now employed in productive capacities in the aircraft manufacturing industry as compared with only 1,900 nine months ago.

The number of women actually building warplanes in the industry, the Chamber says, has increased ~~1,952~~ per cent since October, 1941. Employment of women in the industry started on a small and in many cases an experimental basis. Now, women having proved they can handle almost any job in an aircraft plant as well as men--and some jobs better--their employment is being expanded as man-power wanes.

In addition to those in strictly production work, thousands of other women hold clerical positions in the industry. About 1,900 women were in productive jobs in October, 1941, and by November there were 2,500. This figure had more than doubled by January, 1942, to 6,900. Two months later the industry again more than doubled its number of feminine employees, having 16,000. Then further increasing production raised the total to above 39,000 by July.

Thus, what was once looked upon as a dubious although necessary expedient to meet war demands, now is an accomplished fact. All aircraft companies give preference to wives and widows of men in the armed forces.

When women were first employed in the industry, they were assigned to such work as inspection, sewing and upholstering. Now they are working on almost every job except those requiring lifting.

MORE

The Chamber's survey shows they represent an average cross-section of the feminine populace. There are ex-shop girls and former school teachers. There are housewives, stenographers, waitresses, farm girls, textile and garment workers, youngsters not long out of school or college, and even some grandmothers.

All divisions of United Aircraft Corporation are employing women in increasing numbers. For example at Vought-Sikorsky women have, in effect, become "seamstresses of metal," operating spot welding machines which stitch together the skin of the Vought Corsair, new Navy fighter craft. At Pratt and Whitney women have taken over many jobs on the big 2,000 H.P. double Wasp engines, and women are working on minor assemblies at Hamilton Standard Propellers.

Vultee Aircraft began employing women more than a year ago and is now convinced that women's efficiency proves that an even greater share of direct production can thus be handled if the national emergency so requires.

Officials of The Glenn L. Martin Company are enthusiastic over the production performance of thousands of women on their assembly lines. A few months ago Martin trained a small group at the company's vocational school and gradually placed them in jobs. Today there is scarcely a Martin manufacturing department without women employees.

Wright Aeronautical reports that after using women for some years as inspectors and on similar jobs, an extensive combination of newly-designed machine tools and new training methods now make it possible to employ women even on heavy machine tools turning out part of Whirlwind and Cyclone engines.

North American Aviation started with 12 women on the electric sub-assembly line last November and has added many more in other de-

partments. The Piper Company, producer of trainers, liaison and reconniassance planes, has women working as welders, drillers, and on final assembly. Spartan instituted an instrument technicians' course for women.

Bell Aircraft, makers of the famous Airacobra pursuit planes, started employing women last December with such good results from the first group which worked on small parts assembly, machine and inspection, that the number was gradually increased as additional trained women became available. The Sperry Gyroscope Company, producers of fine precision instruments, has women doing actual assembly work on airplane equipment.

Douglas and Boeing both use women extensively in their production departments. Douglas even has women in its engineering department, as does Martin and Curtiss-Wright Corporation's propeller division, where women are employed on many propeller-making jobs which once were strictly masculine.

At Consolidated Aircraft, said to be among the largest employers of women on the West Coast, officials say that in many cases women are proving faster than men on delicate assembly jobs, and spoiling less material.

It remained for Fairchild Engine and Airplane to put women in the most unique job, police duty, to aid in fighting sabotage, accidents and fire--not strictly production, but one of the countless ways in which women are helping to "Keep 'Em Flying."

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LINDBERGH FIELD ★ SAN DIEGO CALIFORNIA
CABLE "CONSAIR" P.O.BOX 1950

WOMEN'S BUREAU
MAY 30 1942
DEPARTMENT OF LABOR

May 23, 1942

Miss Mary Anderson
Chief, Women's Bureau
Department of Labor
Washington, D. C.

Dear Mary:

Enclosed is a copy of speech written by a friend of mine, in which I think you will be interested.

Very truly yours,

W. Frank Persons

WFP:mb
Enc

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San Diego, California

WOMEN IN WAR INDUSTRIES

The induction of a vast number of women into war industries provides a subject that is as broad as it is long --- Throughout the entire world, an increasing share of the burden of war production is being taken over by women.

The present conflict has truly been called a "civilian's war". In view of the mounting total of casualties among noncombatants in active theatres of battle and the prodigious total of those killed or maimed in England, in France and other European countries, it is not inaccurate to say that a woman in her kitchen has no greater protection from enemy shellfire and bombs than have men in the fighting forces.

In the degree to which this fact is realized, women, as a comparatively new source of labor supply, have come forward to share in the effort for victory and a peace worth having.

It is my understanding that English factories have been able to employ women to replace men called into the armed services to the extent of about 50 per cent. Evidently the factory procedures in that country can not be readily adapted to the capabilities of women workers, for there is every reason to believe that that figure can be exceeded in this country.

It is obvious that the rapidly increasing employment of women in practically all types of war production jobs is having an important effect upon industry in this country, particularly since such a large percentage of all our industries now is engaged in the war effort.

As to what the procedures of ordnance, of tanks, jeeps, explosives and ships are experiencing in this respect, I am not in position to say.

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Nor can I competently evaluate changes being evolved in the production practices of these industries as a result of their employing women shop workers. It appears not improbable, however, that the general trend of these changes throughout America's war industries is reflected in the changes which have evolved at Vultee. With these I am familiar, and it is assumable that most of the contributing conditions in each, such as increased volume and speed of production which we have encountered, obtain likewise in other war industries.

Vultee last month completed its first year of manufacturing experience involving the use of women on direct production jobs. We were the first military aircraft manufacturers in the United States to begin the employment of women in the shop.

We began this program largely as an experiment. Data available from other fields of industry appeared too unrelated to apply specifically to our case.

A survey of the situation was begun, in order that we might block out some rudimentary basis for our program. There were certain conditions which worked to our advantage.

First among them was the fact that Vultee held the largest unit order for military airplanes ever placed by the War Department with a single concern. Consequently our production system was being broken down to include a large number of routine, repetative operations.

Because of this job simplification, it was concluded that no pre-employment training would be given the women to be hired. They would be drawn directly from allied lines of industry and be schooled in the routine of their new job by the foreman concerned.

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During April of last year, Vultee put to work the first fifty women, using them in the radio and electrical sub-assembly department. Several were hired on preparatory jobs, such as masking, in the Paint Shop and on the sewing of fabric covering for control surfaces and blind flying hoods.

By May of last year, at the end of the first month of our experience in the hiring of women, our program passed beyond the experimental stage. Women, within that brief time, had proved conclusively that they were capable of handling a large number of the jobs involved in large-scale production of military aircraft.

This fact we learned substantially in advance of the appeal made by Sidney Hillman, (then co-director of the O.P.M.) that defense plants make an effort to employ resident women, in preference to attracting men from distant localities, with consequent uprooting of entire families and their influx to crowded defense production areas. The advantage, in terms of a more stable personnel, to be obtained from following such a policy, already was becoming apparent from our experience. Our personnel turnover among women is extremely low.

Several hundred additional women have been added to the payroll in ensuing months--many problems have arisen, satisfactory solutions to which have been incorporated in our personnel policies.

With this in view, and on the basis of a recently completed survey, we have concluded that the present total of women employees in the plant can be quadrupled, if need be, and the total number of job classifications for which they are hired can be more than doubled. Considering draft conditions, with an eye to which I may say the program originally was started, the advantage of this is obvious.

Our first problem was with the men. They resented what they

considered to be an encroachment of women upon their sphere. They sought to belittle the notion that women might successfully fill jobs similar to the ones on which they worked. Of further injury to their masculine pride was the fact that Vultee committed itself to the payment of wages in direct relation to the job done--making no distinction in wage scale between men and women.

Here, then, was a situation in which men found themselves working shoulder to shoulder with women, on similar jobs and receiving similar pay. Since there was little else they could do about it, the men awoke to the realization that the only way out was "up". For the most part, they began to train themselves for better jobs.

This reaction fitted admirably into the company's program of expansion. It was never Vultee's plan to replace men with women, but rather to employ women in order that available men could be released to fill jobs requiring greater capacity.

Spurring the men on to fulfill this expectation was the fact that the first few score of women employed began to do an excellent job. Almost immediately, they exhibited an adeptness for their new tasks. They knew, of course, that they were on trial and the desire to "make good" heightened their efforts.

They became what might be termed "model employees". Their morale was excellent--they did not abuse privileges given them--there was no congregating in restrooms--no smoking in forbidden areas.

The Radio and Electrical Sub-Assembly department in particular, had been a continuous problem so long as men were employed there exclusively. Most of the tasks involved routine repetative operations. Men quickly learned them and, as quickly, became dissatisfied. They wanted more money than the

job was worth. Failing to get it, they demanded transfers to other departments. Specifically, they lost interest in their work.

An instance of induced physical fatigue, resulting from such loss of interest, may be worth citing. One of the men in electrical sub-assembly had been using an air driven wrench. He began to complain that the wrench was too heavy. Lifting it and handling it all day was over-taxing his arm muscles. Insofar as could be determined, he was sincere in his complaints, which became incessant. When a woman was assigned to his job and he was transferred to another, the Foreman frequently took occasion to ask her if she could handle it--was it too much for her? She, on the other hand, was equally sincere in saying that she never gave a thought to the physical effort involved. Her interest was centered in proving her competence on the new job.

Such experiences as that focused attention on the fact that men, of a type worthy of retention on the payroll, naturally lost interest in their simplified jobs almost as quickly as the routine involved was mastered. Their dissatisfaction was merely an expression of unemployed capacity.

Since the company was pursuing a course of rapid expansion, opportunities for advancement to better positions were seldom lacking. By reason of this, our problem with the men practically solved itself.

Meanwhile, women were being inducted into the plant in increasing numbers. They were put to work in Machine Shop, doing filing and burring. Then they were tried, and found competent, in the operation of drill presses, and on mills, hand turret lathes, and similar tools.

But, within the first three months, women began to take advantage of the situation. Their number had increased considerably and they realized the trial period was over.

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They began to carry to an extreme the tendency of some of the men who had not recovered an interest in the job. The women began congregating in the rest rooms, or loitering there to chat awhile.

Up to that time, only foremen had been given the right to correct deficiencies in the women's conduct, and they had had very little trouble in doing it. But this situation was a "poser".

Obviously, the foremen could not enter the women's rest room. The situation became a bit delicate. A woman needed only to imply that her absence from the job was necessary and her foreman could do little about it, even though he had reason to believe she had deliberately abused the privileges reserved to her.

To meet this problem, our first matron was employed. She solved it in rather quick order, by entering the rest room and catching the girls there smoking or loitering to talk.

It was not difficult to make them realize that their abuse of privileges placed their jobs in jeopardy. And they wanted to keep those jobs. At that time, there was no other company to whom they might apply for similar employment. Nor could they return to former jobs in allied industries without accepting wages that, on the average, amounted to about 30 per cent less than they were getting at Vultee.

The situation was cleared up quickly, but it brought repercussions. The matron was a little tactless in her handling of the problem. We had been a little careless and lacking in forethought when selecting her.

As a first step, special rules pertaining to women were adopted. These rules now comprise a special section of the company's rule book. Care is taken to explain them to each new woman employee on the day she goes to work. A copy of the rule book, of course, is given her, so that

she may refer to it as occasion arises.

As a second step, two new matrons were brought in to replace the first. Care was taken this time to select matrons who were mature, womanly women, capable of commanding respect, but tactful, considerate and able to win their point by persuasion rather than by threats.

It was unnecessary to terminate any of the women involved in the foregoing incident, so readily did the presence of the two new matrons dissipate the aftermath of resentment against their predecessor.

Other than in dealing with infringements of these special regulations, the matrons have no supervisory authority. Each reports directly to the Assistant Superintendent of the departments assigned to her. And each, by her tactful enforcement of these regulations, has assisted the foremen in responsibilities naturally difficult for them to handle.

For instance, foremen make an awkward job of it when they have to tell a woman employee that the sweater she is wearing is far too tight. Nor is it easy for them to instruct a girl not to use extreme makeup.

In carrying out dress regulations, it is far more satisfactory for the foreman to call infringements to the attention of the matron and let her take care of the matter for him.

Reversing the picture, women employees dislike having to ask their foreman for special consideration on account of their occasionally acute periodical condition, in order to secure his permission to visit the plant hospital. Yet no employee is permitted to see the company doctor without a special pass. Women are not reluctant, however, to place their request with the matron, who can obtain a pass from the foreman for them.

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In fact, those new matrons have so won the confidence of women employees that the latter voluntarily discuss matters with them that they would not otherwise have acceptable means of bringing to the attention of supervision.

These results, in turn, went far to modify an attitude toward women workers that had been apparent on the part of many of our foremen. Relieved of the irksome phases of their supervision of women, they were free to recognize more clearly the ability of their feminine employees. They found in these women, newly inducted into the military aircraft industry, a high degree of pride in being found competent on the job.

While foremen still look upon a woman with a hammer in her hand with some indulgence, they unhesitatingly rely upon women to do their work exactly according to instructions. The foremen realize that it is largely a lack of direct mechanical experience, from childhood upward, that prevents women from handling certain jobs with a facility equal to men.

But they recognize, too, that this very handicap makes women more painstaking in their efforts to fulfill the requirements of their job with absolute accuracy. Because the women themselves recognize their shortcomings, they exhibit less tendency to pass over minor errors in their work.

As an instance, they may be more completely relied upon than men to replace a rivet improperly headed.

By reason of the reliance they are able to place in their women employees, the foremen are inclined to minimize in their own mind, the added burden of having to deal more tactfully with women than with men.

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Otherwise we might have greater objection from the foremen when a woman takes "time out for tears" because she has been transferred to another job. It is necessary in such instances we find, to explain carefully to the woman that such transfer does not indicate incompetence on her part. It appears to be their tendency to feel, when they are placed on another job, that they were not fulfilling expectations on the previous one.

Other special considerations made in behalf of women include only minor changes in the usual procedure for induction of new employees.

The same application form is used, the same interviewers consider the applicants' qualifications and their required character references and letters of recommendations from previous employers. Both men and women are subjected to the same routine of fingerprinting and gathering of identification data.

But, separate rooms for physical examinations have been welcomed, as an added facility.

When the special dress regulations are explained to new women employees, recommendation is made that they wear the standard uniform, obtainable at the employee's store.

There is a point worth noting here. The first uniform adopted comprised slacks and a blouse of a pattern that apparently imposed some restriction on their freedom of bodily movement. Women, normally accustomed to wearing dresses, dislike any apparel that binds or hampers them in unaccustomed ways. Furthermore, they will not like the uniform if the color does not do justice to their appearance. Nor do they like it if it makes them conspicuous, should they need to do a bit of shopping on the way home

from work. Women dislike being made to feel conspicuous.

If company insignia is sewed to the uniform, and is of such size and in such position that it cannot be easily covered by a coat or jacket, or if the material and color of the slacks are such that they are readily distinguishable as being other than acceptable street wear, the majority of women will refuse to wear them, because of the resulting occasions on which they are made to feel conspicuous.

Furthermore, a one-piece uniform appears to be more acceptable than the two-piece variety.

Should it fall to your lot to attempt the task of persuading women employees of your plant to wear a standard uniform, these points may be borne in mind with profit when selecting it.

To return again to the point from which I digressed--that of inducting new employees--both men and women are taken in charge by the Employee Service Supervisor, who explains the company policies, and other items contained in the rule book.

Thereafter, the women are introduced to the matron of the department in which they will work, while the men continue on a tour of the plant, conducted by the Service Supervisor.

The matron explains further the special regulations applying to women.

In order that you may have opportunity to judge for yourselves the extent of these special regulations, I shall take leave to read them to you directly from the company Rule Book.

--(Pick up special regulations from Rule Book)--

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When the foregoing provisions have been explained and discussed with new women employees by the Matron, the latter conducts them to their various departments, acquaints them with the location of rest rooms and first aid units, then introduces them to their foreman.

Experience has shown it is preferable not to parade new women employees through the plant in groups on a conducted tour.

While the need for making these provisions in behalf of women was being learned, experimental data on their performance on the job was being gathered and compiled. It has led us to rather definite and far reaching conclusions.

To begin with, factory jobs for women must be tailored to women.

By reason of general usage, the tools and facilities of American factory jobs largely are designed to be handled by men.

It definitely was in Vultee's favor that the hiring of women was started when production jobs were being simplified to meet the needs of fast, quantity production. Consequently it was a comparatively simple problem to so plan many of the jobs that they can be said to be tailor-made for women.

Throughout the Electrical Sub-Assembly department, most operations are arranged so that women may sit at their work, with all materials and tools close at hand.

Special jigs were added to hold small tools, such as drills, so that women could concentrate on employing more effectively their proven capacity for repetative operations requiring high digital dexterity. They excel at making every movement of the hands count.

While I cited earlier an incident in which one of the women failed to feel fatigued from having continuously to lift an air-operated wrench,

the actual lifting and handling of it obviously detracted from her potential efficiency.

Unlike the man whom she replaced, she, as a woman, had the capacity to withstand the monotony of even more simplified repetative operations.

To have suspended the air wrench from a counter-balanced support for him would have served merely to heighten his boredom with the job.

As for the woman who replaced him, she now handles two such counter-balanced air-driven wrenches, one in each hand, and with them simultaneously tightens two lugs at the same time, instead of one as formerly.

This retailoring of jobs to suit them for women has extended amazingly the list of job classifications in which women have proved themselves proficient. But the extent to which it could be carried struck definite limitations when it was sought to segregate women into sections of the plant separate from those in which men were required.

Insofar as it was possible, that effort was carried out. But efficient warplane production, by a streamlined flow from raw stock to fly away, without backtracking, does not permit such an idea to be carried very far. Many of the jobs for which women are admirably suited must be carried out by them shoulder to shoulder with men.

It was essential, therefore, from the outset, that men and women be treated with equality. With but the few exceptions mentioned, (and those desirable to best efficiency of both), this policy has been carried out explicitly.

Results have been most encouraging. Having proved their ability to hold their jobs, being paid on the same wage scale and treated the same as men, women began to react to their own competence. They gradually began

to accept an equal share in plant activities.

Cardinal virtue among the latter is their participation in the Vultee Employee's suggestion plan. Ideas submitted by women for improvement of products and manufacturing procedures have increased measurably of late. None of their ideas has been rejected by the Suggestion Plan Committee because it was found impractical.

Of high interest is the fact that many of the women's suggestions are found to parallel developments already being undertaken by the Production Engineering Department. In other words, Vultee's women employees have gained such a grasp of their new situation that they already can view their jobs in perspective -- recognize wherein procedures fall short, from their standpoint -- and suggest improvements that are practical.

Women's suggestions repeatedly have led to their own increased efficiency. They have applied their knack for contriving ways of doing things more quickly and with less effort. One has designed a new type of rack on which light parts are conveyed from sub-assembly to the paint shop and supported during paint spraying operations. Another developed a means of sewing tail wheel boots that saves valuable material and time. Yet another drew upon her previous industrial experience in a bottling works to suggest the use of a glue spreading machine to replace the former method of applying adhesive with a brush. By doing so, she multiplied her own production three times. A woman employee in the paint shop developed a means of masking which saves masking tape and can be used more quickly.

While this newly-acquired self confidence was beginning to find expression, another factor, which favorably affected it, was being felt noticeably. From the time last year when announcement was made that Vultee

would begin hiring women on direct production jobs, a considerable amount of publicity has appeared. As we progressed through each stage of our program, newspapers, magazines, the radio and newsreels kept pace with our progress.

To those of you who may, from time to time, have been exposed to some of it, it is obvious that much consideration was being given to the selection of rather a high type of woman shop employee at Vultee. For instance, the percentage of women now working in the plant who are married is 46.57. Of the large number with dependents 67.80 per cent support children. Twenty-seven and twenty-nine one-hundredths per cent are single, and 14.42 per cent are divorced. Only 7.66 per cent of the factory women are separated, and 4.66 per cent are widowed.

Preference is given to women applicants of 22 years of age, or more. There is no top limit of age. At present, the oldest among them is 59.

As to the average educational background of Vultee shop women, 46.06 per cent have completed four years of high school. This includes the three who have a college degree, and the 1.43 per cent who failed to complete more than eight years of school.

From this it may be seen that Vultee's feminine plant personnel compares very well with the working section of the feminine populace of a good, sound American community.

These facts about Vultee women employees, when widely broadcast, and further related conversationally among friends, attracted a continuously ample number of women applicants of similarly high caliber. From

these we were able to make selections with even greater care.

Meanwhile, data gathered on their performance on the job of women who had been selected principally on the basis of their previous industrial experience, led us to question whether or not we might profitably abandon that tack in many instances.

In the few cases tried, our experience shows that women with good background, who exhibit a high aptitude, can be put directly on the job and quickly trained, with better results than could be obtained if they were selected solely on the basis of their previous experience in allied fields.

In the first place, such applicants do not have to unlearn certain attitudes and habits of work and they are far more apt to express enthusiasm and initiative on the job.

If we could find a dependable means of selecting by aptitude, simplified jobs in sub-assembly, along the powered monorail final assembly conveyor line, and in receiving inspection could be filled by women from unallied fields of industry, as contrasted to the need for training and experience for such jobs as welding and Machine Shop.

Mechanical aptitude tests, the Johnson-O'Conner Pin Block, Stenquist Mechanical Aptitude Test and the Minnesota Manual Manipulation Test were tried. Foremen of the various departments selected the 10 women they considered to be of top flight efficiency, and, likewise, the 10 whom they rated (to use their own language), as "hanging on the ropes", insofar as their continued employment at Vultee was concerned. Two representatives of the U. S. Employment Office put the 20 women, in mixed order, through the tests. Results coincided with the Foreman's judgment, with but one exception. That case, when traced down, was the exception which proved the

accuracy of the tests. She was a new employee, having been inducted but a day or so prior to the time her Foreman rated her in inferior group. During the two weeks which had elapsed between then and our checking into the matter, she had oriented herself in her new situation and already was employed on one of the highest skilled jobs in her department.

Since almost all initial interviews now are conducted at the Office of the U. S. Employment Service for all aircraft factories of the Los Angeles area, I understand that office is now preparing to make regular use of those aptitude tests on all applicants intended for reference to Vultee.

The question most frequently asked by visitors at Vultee -- one which, frankly, gave us some worry at the outset of this program of hiring women -- is beginning to find its answer in the results of our present trend toward evaluating the applicant herself rather than entirely by her past experience.

Everyone seemed certain that we would have a moral problem on our hands if we worked women and men shoulder to shoulder in the plant. We were not entirely unconvinced ourselves.

Of greater worry to us was the probability that this condition might result in frequent transferring of an employee's concentration of work to his or her fellow employee. I am happy to state that, since the very early stages of the women's hiring program, we have encountered no more difficulties of this sort in any of the Shop departments than among office employees. Emphasis on evaluation of the character and background of new employees has raised us above that pitfall.

I have stated that it was never the intention at Vultee actually to replace men with women. Instead, it was our dual objective to release

them from the doldrums that resulted from job simplification, and to make better use of the capacities of those among them whom the draft did not take.

Conversely, only men are used for supervision at Vultee. This too has proven definitely advantageous. Women resent taking orders from women, but readily accept direction from men competent to supervise them. Under this condition they accept supervision more readily than men.

This fact is borne out by our experience with them in defense training classes. A substantial number of our feminine personnel regularly attend these classes. They learn more slowly than men, because they learn meticulously. They ask interminable questions and practically exhaust the possibilities of each step taught them.

In this, they express decidedly less tendency than men to skim over details as a result of hasty evaluation of themselves as being basically superior to their instructor.

Men are prone to take this attitude in spite of the fact that must be obvious even to them, that they are not yet as well trained in the subject being studied.

To sum up, employment of women at Vultee functions now, on the basis of a year's experience, with recognition of the following points which make for its definite success.

Factory jobs have been tailored to women's natural proclivities, enabling them to employ the high digital dexterity in handling repetitive operations, in which they excel, and to express the same efficiency as they do in their own fields.

Secondly, equality of treatment and remuneration on the same scale with men has won from women at Vultee a favorable reaction to their own competence.

This, in turn, spurs their initiative. Results are expressed in terms of suggested manufacturing improvements, that already have been cited.

Furthermore, those among them who have membership in the unions represented at Vultee, share in the activities of those organizations. In view of Vultee's policy of paying women equally with men on the basis of the job done, unions readily accepted the Company's program for hiring women. And Union Grievance Committees now include women representatives.

Thirdly, taking pains to evaluate the individual in terms of her basic character, coupled with an analysis of her mechanical aptitude, has gone far to set a favorable pattern of shop conduct. Furthermore, it has resulted in a heightened morale and efficiency among both men and women. We have ex-lingerie sales girls, school teachers, dress models, housewives, show girls, business college graduates turned shop workers, novices and those with previous related industrial experience, working together in the plant with men of as many dissimilar backgrounds.

Their tacit acceptance of each other is based on individual competence on the job, but, beyond that, the upgrading of the plant personnel effected by careful selection of applicants from the standpoint of character, has developed pride among employees in being recognized as Vultee workers.

Finally, exclusive employment of men in supervisory capacity actually has eased the friction usual between those who give and those who take orders.

A condition frequently encountered at Vultee, which would have been wholly astounding a brief twelve months ago, leads me to believe that a trend is building up that may reach unforeseeable proportions.

A substantial number of women, now lucratively employed as

private secretaries elsewhere, have applied for shop jobs at Vultee. In fact, many members of our own office force have made known their willingness to transfer to direct production jobs.

While a part of this tendency is accounted for by existence of war conditions and a prevalent patriotic desire to take a more direct part in the effort for victory, there undoubtedly is a further factor involved.

Some light is thrown upon this by the advancement achieved by certain of our women employees, from mediocre shop jobs to increasingly higher brackets involved in direct warplane production.

As an instance, a girl of 23, with college background and considerable initiative, has advanced from paint shop helper through successive steps to her present position as process planner in the tooling department.

Another woman is successfully holding down a job as a manufacturing planner. Yet another woman, whose background is quite unusual, has advanced from the comparatively simple, routine job of magnetic inspection to a position in the production department.

Women definitely are coming into their own in the handling of direct production jobs. Those whose natural aptitude was less suited for the types of jobs formerly open to women, now are finding opportunity to prove their latent ability. It reasonably may be concluded from this that a full new field of endeavor is being opened for women as a result of wartime necessity, and that women are proving themselves capable of meeting its requirements. Such opportunities have not heretofore existed.

Perhaps this very lack of opportunity caused a rejection on the part of women -- somewhat in the manner of a psychological defense mechanism -- of the notion of an industrial production career for themselves.

Now, however, with the pressure of the war emergency popularizing the notion of war jobs for women, a directly opposite trend has developed.

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The shop girl no longer is looked down upon socially as one who cannot find a better means of earning her livelihood. Existing wages in the aircraft industry, perhaps, have had considerable effect upon this change of attitude, but beyond that, the ability to hold down a job in direct production is gaining an equal importance in women's scale of values with that accorded it by men. Once fully established, it is probable that this trend will continue beyond the war effort.

As women in direct production gain competence and skill through experience, it appears probable that they may offset the disadvantage inherent in such relationship and we shall find them in supervisory positions in the factory. Therein, they will be accepted equally with men on the basis of their individual competence.

In other fields, such as communications, women for some time past have been included in supervision. Pressure of the present emergency may do much to hasten their acceptance in such capacity throughout the war industries.

Admittedly, this looks toward a reversal of the present policy at Vultee of employing only men in supervision. There are three salient factors involved. One is the pressure of war emergency. The second will be the number of years of experience it will take for women to acquire competence equal to that of men, now in supervision, who have spent their entire working lives in direct production. --and their ability to meet peculiarities of the problem that will exist when women are given foremanship over women.

A third modifier, and an important one, will be the degree of job simplification that will develop from industry's increasing mass production efforts.

If I am right in assuming that the effect of women being inducted

in large numbers into war industries is reflected by results at Vultee, it seems not unreasonable to point out that development of this new source of war labor supply -- by which half, or, perhaps more than half, of direct war production may be carried (if that becomes essential to victory) -- may culminate, sometime in the future, in an industrial revolution.

Women in industry, I believe, are here to stay.

Management and Maintenance

Copies from FACTORY for June, 1942.

THE WOMAN IN THE SHOP

Trouble? Some. But the major problems are soon found to be minor. Here's how they were solved by a concern that has hundreds of women doing men's jobs.

George S. Hastings, Manager, Industrial Relations, Inland Division, Vultee Aircraft, Inc.

"I honestly don't believe any of us expected them to last the day". So says Lee Reed, the foreman of the department where the first two Vultee women started to work. "The office had talked me into taking them on, and I agreed with the leadmen that we'd give them a fair trial. And we meant "fair trial" - no special favors, no babying.

"Then two girls came in. I handed them each a bucking bar, teamed them with a couple of good guys, and told them to get busy. Then I walked by a couple of hours later I expected to see a couple of tired girls. I was pretty surprised to find the girls had the guns, and the boys bucking for them. Next day I teamed the girls together, and they're still at it, doing as well as anyone could ask."

The original decision to bring women into the plant was not met with cheers by anyone. The main problem was the resentment of old workers and supervisors when they saw untrained girls coming in to take over jobs. The immediate suspicion was that girls would lower the wage rate and be used to replace skilled men who were making high hourly wages. There was also a certain amount of resentment caused by the suspicion that girls would be given favored treatment. Foremen and supervisors felt that girls might be a disturbing influence.

The solution to all this has proved to be a matter of education. Girls are paid on the same basis as men. They are not being brought in here to replace highly paid men, but rather to replace men who are drafted into the armed forces. In many cases men have been moved upwards to more responsible positions when girls have been brought in on the unskilled jobs. The girls are given exactly the same treatment as the men. They are required to report on time; they must observe the same rules of conduct; warning slips are issued to them for offenses; and as much is expected from them as from men of comparable experience. Once the men understood these facts the girls caused little disturbance.

The second big problem was in deciding what type of job to give to women. At first it was thought that there were certain types of work that were "feminine." Experience has shown, however, that there are few jobs a girl cannot handle. We have found that girls lack mechanical experience but not mechanical ability. Although the foreman does have to explain what he means by a wrench, drill or rivet gun, and explain carefully each step of a job, girls seem to be able to pick the work up, particularly repetitive work, just as easily as men.

Next in importance is the problem of training the girls, who, as a group, are unskilled, with no mechanical or shop experience. Government and private training schools are located in this area, but in most cases we found that they serve only to give the barest preliminary training in shop terms and customs. We have a school at the factory in which some girls are trained in riveting, sheet-metal work, drilling and countersinking rivet holes, and other skills. Mainly, however, training is done on the job by the foremen and leadmen, and the girls are actually learning by doing the work.

STANDARD UNIFORMS

The fourth major problem was just about what you would expect. Naturally, the presence of girls caused a certain amount of excitement among the men employees, and for a while last fall a sort of unannounced contest seemed to be in progress as to which girl could wear the flashiest or most revealing clothes to work. This was very neatly solved by putting the girls into a standard factory uniform, designed by a committee of girls chosen by themselves. The uniform decided upon is a two-piece slack suit which, although neat, is unaccentuating. During the summer a blue shirt of lighter weight material is substituted for the heavy winter garment. The effect of this seems to have been to put all the girls in the same category, and we find men and women working with little consciousness of each other.

Attendance was one of the minor problems which we expected to face. Experience has shown, however, that the girls are just about as regular in attendance as men, and from a health point of view they seem to be able to hold their own. In this line the number of visits by girls to our first aid room is more or less in proportion to the number of girls in the shop. Once they had been fitted with hair nets and learned to leave rings, necklaces, and bracelets at home, their accident rate was no higher than the rate for the entire factory.

Girls as a whole seem to be more easily satisfied with their jobs than men. There is much less turnover among women employees, and I believe that to date we have had no case where a girl left this plant to take a job with another aircraft company.

In some spots the girls have proved invaluable. There's one little girl, for instance, who probably wouldn't weigh 95 pounds soaking wet. She couldn't even pick up one of the big rivet guns. But give her an armful of blue prints and air drill and let her crawl inside one of the Vengeance monocoque sections and you'll get more work accomplished in one day than ten husky men could do in a week.

As an example of the way in which girls have been spreading out through the whole plant, here's a partial list of the jobs they are doing: Machine shop sub-assembly--set up jigs, drilling, riveting, burnishing, and pressing in bearings; major assembly--landing gears, rubber pedals, drill presses, clerk and stockroom; fuselage assembly--instrument installation, main electrical panels, pilot armor plate; rear stick assembly, wobble pump, rear and front rudder pedal, rear instrument panel, firewall hydraulics, bomb control panel. In the machine shop they operate small hand turret lathes, small hand screw machines, small milling machines, and multiple spindle drill presses.

A final word. If enjoyment of work helps to make a good worker--and I think it is pretty well proved that it does--then the girls have plenty to offer industry. As one girl said the other day:

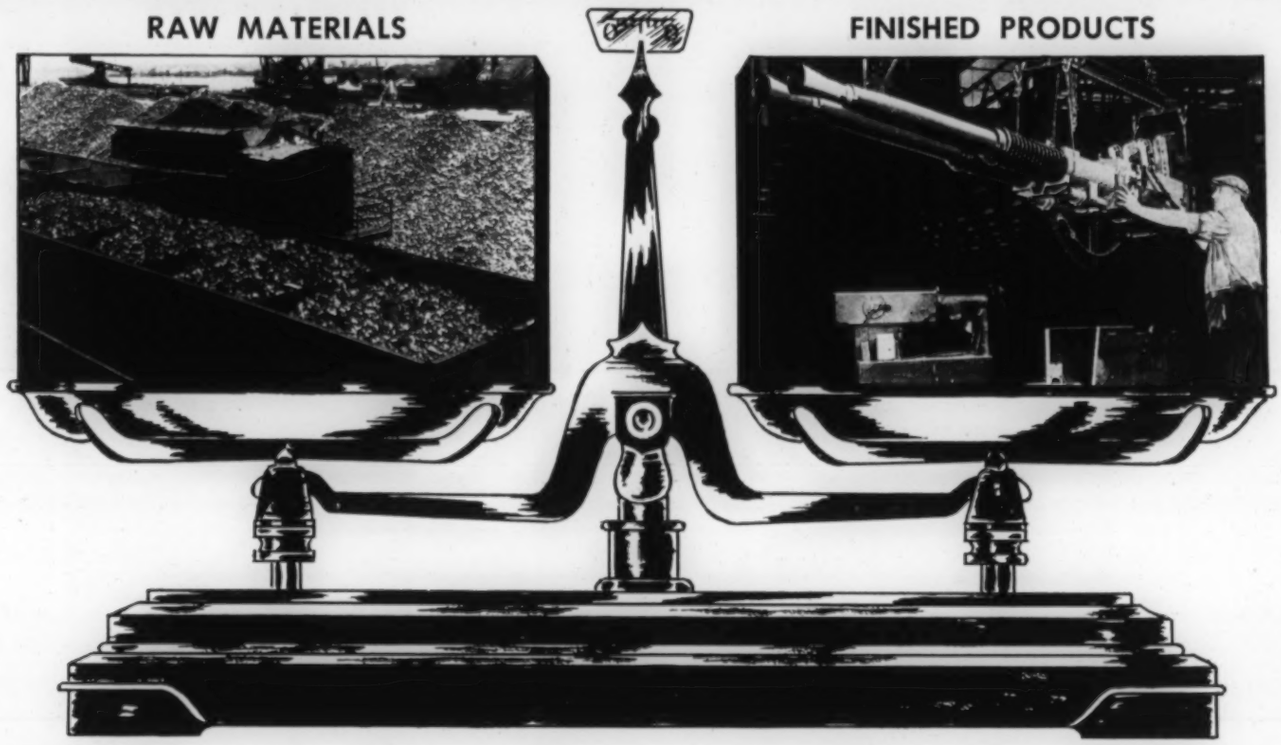
"I'm really a little surprised to find myself out here bucking rivets, but I wouldn't trade jobs with anyone. You see, I feel as if I am really doing something to help in this war. My brother was drafted last week, so I have sort of have a personal interest in every airplane that goes out of this shop. Maybe a plane that I help to build will be fighting on the same front that he is."

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AUTOMOTIVE WAR PRODUCTION

Vol. 1 No. 8 Published by Automotive Council for War Production November, 1942



America in New Phase of War Production

Output Schedules of Tanks, Guns, Planes to Be Controlled by Materials Available

AS THE anniversary of Pearl Harbor approaches, the automotive industry, expanded and converted to war work exclusively, continues to push production beyond its highest level in peace-time.

The limits of available raw materials are being approached in the war program generally, and keeping the volume up gets tougher and tougher, yet still larger total production of completed products is to be obtained in the nation through closer scheduling and more efficient distribution of steel, copper, aluminum and other critical metals to the producing industries. This is the objective of the newest material control program of the Government, which proposes to keep all military and civilian production schedules within the quantities of material actually available month by month, but to use these to the hilt.

The specific facts concerning production of weapons coming out of automotive plants remain a closely guarded secret, but some of the indicators issued recently, which will never help the Axis powers figure out exactly what or how much is being turned out, include the following:

Aircraft parts and equipment produced every five days are worth, roughly, the equivalent of a squadron each of heavy bombers, medium bombers and fighters.

The units destined for land armor made each five days, have the same cost as the entire mechanized equipment needed to supply an Army armored division.

Each nine days the output of weapons and their parts corresponds in dollar value to all the guns needed by an armored division.

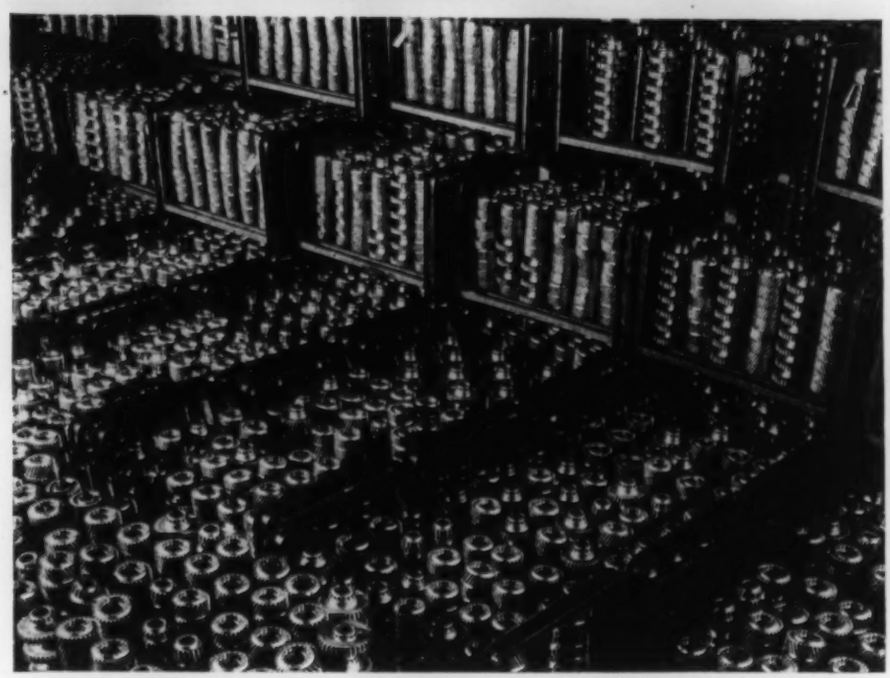
And there is more besides, even from this one industrial aggregation. A stream of armament has been piled up by every method known to the industry for increasing output.

This productive capacity is the direct result of planned expansion, and of orders from the military services in the days following Pearl Harbor which summed up briefly into "Give us all you can make!"

Plant after plant reported its output doubled, redoubled

(Continued on Page 7)

Subcontractors Are Playing Major Role In Output of Automotive War Products



Hundreds of parts for nearly every weapon come from capable suppliers.

"IF A MAN had to eat an elephant, first he'd cut it up into small pieces."

This graphic phrase, used recently by Maj. General Levin H. Campbell, Jr., chief of U. S. Army Ordnance, to describe his department's approach to the handling of its enormous responsibilities in procuring, supplying and servicing the weapons used by our fighting forces, is an exact summary of long-standing automotive practice in producing billions of dollars worth of mechanized goods annually.

Currently made up of more than 700 manufacturers of parts and equipment and fewer than 70 passenger car and truck companies, the automotive industry early learned the value of cutting its "elephant" of mass production into small pieces.

From the start of the industry, more than 40 years ago, the parts suppliers —called "vendors" in peacetime and "subcontractors" now—have been an essential part of passenger car and truck production. They provided highly specialized research and production skills and facilities that few motor vehicle companies could maintain on such a scale. They have been responsible for engineering and producing many improvements in such important automotive subassemblies as axles, brakes, ignition systems, etc.

Just as no motor vehicle manufacturer, no matter how integrated his operations were, could turn out cars and trucks without the help of his suppliers in peacetime, so now no automotive prime contractor can produce war material without subcontractors.

How the industry's well-established practice of subcontracting has grown apace with the war's expanding demand for armaments of all kinds is illustrated by the experience of one passenger car company, which normally produced 77% of the dollar value of its cars and bought 23% from vendors.

This company's most important war contract is for an anti-aircraft cannon —64% of the dollar value of which it buys from subcontractors. Of the gun's 306 separate parts, only 25% are made by the prime contractor.

Nearly all of its 93 subcontractors are companies which customarily make automotive parts. One of these, a producer of service tools, is turning out 29 parts for the gun. It in turn has 30 sub-subcontractors.

Because so many automotive parts companies have their facilities crowded with prime-contracts of their own, the company has had to develop several unusual sources of supply. Among them, a cash-register company—with the help of 20 sub-subcontractors which make stampings and machined parts—is producing the magazine assembly for the gun. The gun-sight assembly is made by an electric iron company; which has 15 sub-subcontractors, while a power shovel company—and 51 sub-subcontractors—shares with a truck company the subcontract for the gun mount assembly.

Thus, the passenger car company responsible for the production of the cannon has cut its "elephant" into 93 "pieces." These 93 subcontractors, in turn have from 10 to 30 sub-subcontractors. Since each of these several hundred sub-subcontractors must buy materials from still other companies, this typical "elephant" ultimately is cut into very small pieces indeed.

New Developments Cut Materials Consumption

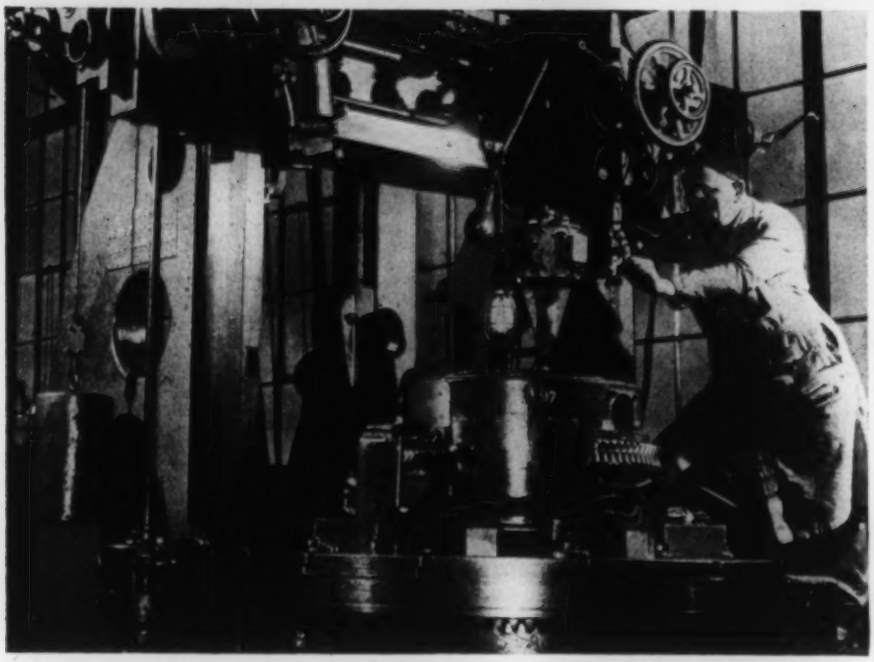
WITH production of war materials by the automotive industry generally at a level today where the only limiting factor is raw materials, the new techniques being developed that substitute more abundant metals for those on the critical list assume added importance.

Engineers and metallurgists of automotive companies are spending long hours, searching out new methods for saving such hard-to-get materials as copper, nickel, tin, aluminum, zinc and chromium. And, they're getting results.

For example, members of the War Engineering Board, which consists of more than 400 of the industry's foremost engineering talent, recently reviewed thousands of parts of the M-4 tank which are being produced by several automotive companies. Specifications for substitute materials which must at least be as good as the materials they replace were submitted to the Army. Receiving approval, the changes are now being made and, based on Army estimates, they will save more than 7,000,000 pounds of nickel, approximately 2,000,000 pounds of chromium and nearly 1,000,000 pounds of molybdenum in 1943 production of M-4 tanks.

Perfecting a method of drawing Army truck headlamp reflectors from steel instead of brass, one automotive firm eliminated 65,000 pounds of copper, 32,000 pounds of zinc, 275 pounds of nickel and 160 pounds of silver in every 100,000 vehicles produced.

Automotive Machine Tools, Once Discarded, Are Rebuilt for Important War Assignments



Boring mill, rescued from scrap pile, is vital to aircraft engine production.

BY ORDINARY standards, the equipment was obsolete. It was a machine tool known as a vertical boring mill, once used to make rims for automobile wheels.

When the size and type of the wheel changed a few years ago, most firms got rid of their vertical boring mills of this type.

But the value of machine tools is relative. Due to changed circumstances, the equipment which once was deemed suited for the scrap heap is now badly needed.

There are only a few tools left in one automotive city to make the type of circular cut made by vertical boring mills. And the demand is so great for such equipment in war work that the various firms now exchange jobs in order to utilize the existing boring mills to their fullest capacity. For instance:

One automotive company, turning out aircraft engines in quantity, noted that the dynamometer test on its engines was hard on the water-cooled generator. The excessive acceleration and deceleration in connection with the tests developed much heat, causing the core of the generator to expand and freeze, and the water jacket to buckle.

In order to remedy the situation, it was found advisable to mill down a generator part to greater limits. The only equipment which could do the work efficiently was the once obsolete vertical boring mill.

The automotive firm knew of only three places with such equipment and two of them were busy. The third, a large tool shop, did the work. So far, the tool firm has received 15 such jobs.

There have been numerous cases where machines, designed specifically for some automobile manufacturing operation, have virtually been rebuilt in order that they might be used in the automotive war job.

Early in the defense program, for instance, a serious bottleneck in the production of Army 4 x 4 trucks was eliminated by adapting to war production several gear cutting machines which had been lying around "in the grease," unused since the advent of hypoid gears in late model cars.

Army specifications called for a special joint in the front end of the 4 x 4 trucks, which enabled them to be turned without the loss of power in the front wheels.

Such a joint was developed some thirty years ago for front-end power driven racing cars, but was not generally known in the automotive industry. Machines capable of milling the complicated ball-race within the joint were very scarce. The only ones available were the few that the inventor had designed and built years ago and these were being used by an automotive parts supplier.

As orders for 4 x 4s increased, the limited output of joints by the parts firm was not sufficient to meet the demand of the several automotive companies who were building this type of truck. And the supplier was convinced that no other machine could do the job. It appeared likely that truck production would suffer for several months, while new machines were being built.

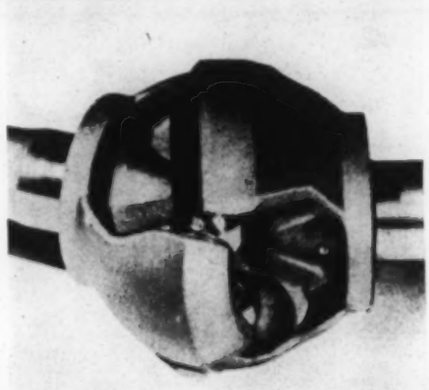
An ingenious gear cutting specialist of an automotive company, however, thought of the old machines that had been lying around idle. Experimenting with ways to adapt them to the job, he designed a special cam arrangement which generated the machines in such a way as to cut the four separate faces of the ball-race to specifications.

Within ten days this plant's machines had been converted to the new job and mass production was under way in 45 days. Six of the machines have since been turned over to the parts company and two other automotive companies were given details on how the conversion was accomplished.

Still another automotive company recently rescued an old punch press from the scrap pile and, adapting it to its gun job, effected an important short-cut in production time.

Formerly obdurator rings were inserted into the breech end of the gun barrel by hand. By retooling the old punch press and through the use of a special fixture the rings, whose insertion formerly required about 15 minutes each, are now squeezed into place in less than a minute each.

Obsolete machines cut complex joint.



WOMEN WORK F

Thousands Trained by Auto to Replace Men on Machine



Women learn drafting in automotive plant building aircraft engines.

AMERICAN women, no less today than in the days of the Pilgrims, work and fight side by side with their men.

The same spirit and determination that made the westward migrations of the last century an epic of feminine heroism is being evidenced currently as more and more wives, mothers, daughters and sweethearts take the places of men in the armed services and in industry.

As the nation goes all-out in mobilizing its manpower for global warfare, nearly 3,000,000 girls and women are doing the work of men at the drill presses, the rivet guns and the giant machines that are today's industrial equivalent of the Pilgrims' muskets and the Forty-niners' long rifles and sharp plows.



There is nothing new about women in industry, of course—except that in today's movement they are taking over jobs that traditionally were considered man's work. During the last war, more than 2,000,000 of 9,000,000 workers were women. Since that time, women have worked shoulder to shoulder with men in many industries. This has been particularly true in the automotive industry.

Now that the automotive industry is making armaments instead of new cars and trucks and must replace the thousands of male employes who have entered the armed forces, women are being trained in skills that previously were considered exclusively in man's domain.

They are learning and practicing the operation of automatic screw machines, drill presses, welders, calibraters, gages and micrometers. They are serving as technicians in checking and testing raw materials.

After brief periods of schooling, women are moving in wholesale lots into final assembly work requiring the use of hand tools, and into the wiring and assembling of small parts, such as electrical equipment, and into the spray-painting booths.

With slightly more training—the same amount that new men receive—they are proving adept at operating complex types of milling machines, presses and lathes. Their deft fingers are showing themselves particularly adaptable to burring, polishing, and lapping and buffing on lathes; at hand-finishing machined parts, at spot welding, soldering, spray painting, packaging, labeling and inspecting.

Women could scarcely be expected to fill the growing need for highly skilled specialists, yet there is at least one instance in the automotive industry where this is so. Nearly a dozen young women are doing tracing work and redrawing in the drafting room of a plant producing high powered aircraft engines. Within a short time, their employer forecasts, they will become skilled draftswomen.

One of the younger girls learned the art from her father, who has worked for the company in an adjacent drafting room for 21 years.

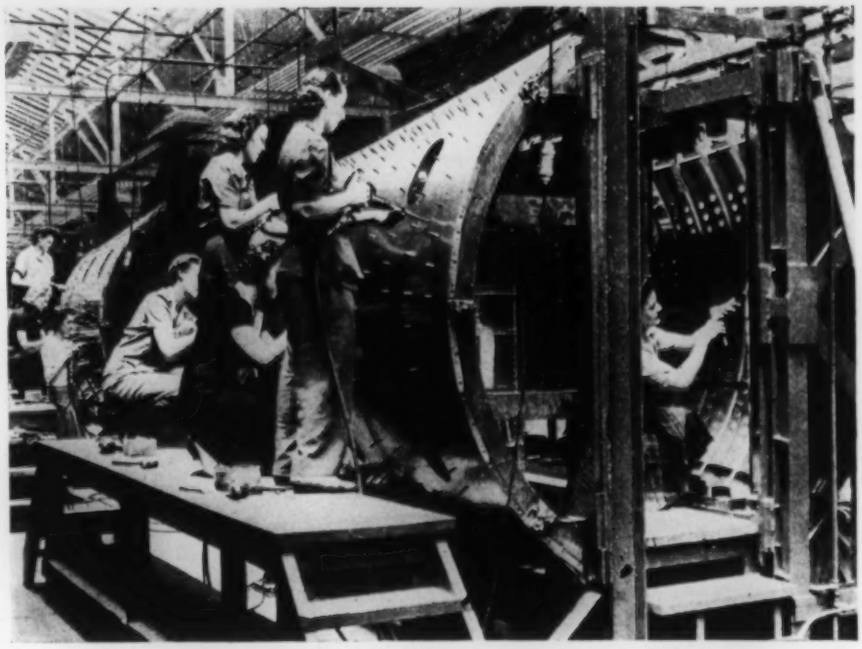
To overcome physical limitations in departments employing women, automotive plants have installed considerably more than the normal number of mechanical aids such as load lifters, roller conveyors, pedestal lifts, automatic chain hoists, etc. For instance, the hand lever on a machine in a tool shop formerly could be moved only by a man exerting close to maximum strength. Now it has been so redesigned that a woman can operate it with her fingertips.



Employment rolls of one automotive company already contain more than 50 per cent more women than they did during peacetimes, and they total approximately 10 per cent of the present factory force. Should need arise, this company is prepared to train women on a large scale.

K FOR VICTORY

y Automotive Companies
Machines, Assembly Lines



An automotive plant has found the fairer sex well suited for riveting.

Several new machine tool plants are now nearing completion in the Detroit area. Company officials declare that more than 75 per cent of the workers will be women when the plant reaches peak production levels.

Another automotive company is now employing more than 9,000 women on important war production jobs. Work ranges from the operation of giant cranes that transfer heavy parts around the plant to the handling of delicate gear parts for a high precision aircraft motor.

To become an inspector of aircraft parts, one university graduate has sacrificed or deferred a stage career. After several years in road shows, she finally got her big chance—the offer of a part on Broadway. Before the play opened, however, the Japs hit Pearl Harbor. The actress decided immediately that her place was on the production front and not under the spotlights, at least for the duration. She's working nights, making sure that materials meet the exacting specifications of the Air Corps.



Not so far away, an expert dress designer—owner of a successful women's wear shop—also is working nights, as a rivet inspector.

One automotive plant now producing tanks recently lost a machine operator to the armed forces. The drafted employe's machine is now being operated by his wife.

Even plant protection departments, feeling the pinch of the growing manpower shortage, have found replacements among women employes.

To meet the growing need for mechanics to keep the nation's transportation facilities in operation, several automotive companies have opened mechanic's training schools for women. Of 700 service operations on one medium-sized car, a study shows that women can perform around 500. They can serve as helpers in an additional 110 operations. Only a very few service jobs can be done only by men.

Many women previously engaged in motor vehicle production have been transferred directly to war work. Their ability proven, they were preferred, in many instances, to untrained men.

A mother and daughter team, for instance, has been working regularly for many years at one automotive company. For 23 years, the mother worked in the parts shipping department. Recently she was transferred to similar work in the new aircraft division. The daughter has been on the payroll 14 years, beginning as an office elevator operator and now heading the company's post office department.

Three sisters, plying their nimble fingers in the trim department of this company before the war, are now busily engaged in aircraft production. Two are inspectors of parts, while the other is a clerk.

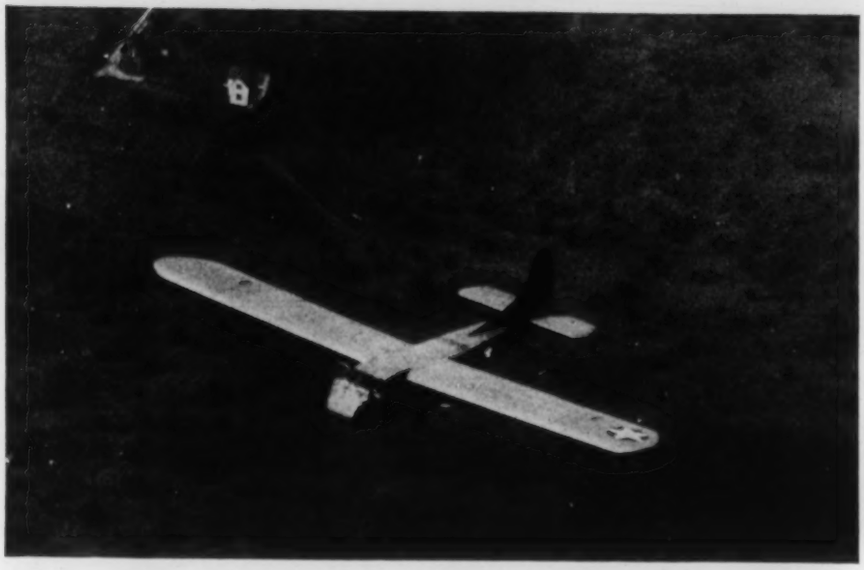
At the same plant, a mother of six children has been working for the past 13 years. She is making small parts on a lathe for aircraft engines.

At another automotive plant, where delicate aircraft instruments are being turned out, more than 50 per cent of the employes are expected to be women workers. In each step of manufacture the instruments must be checked for balance and women have proved particularly adapted to this close work.

The manufacturing manager of this plant recently declared that "nowhere are women doing a more important job in the entire armament program than on this job."

In virtually every plant in the automotive industry, uniform work garments—dresses or the increasingly popular slacks—are being worn by women. Not only does such uniformity reduce safety hazards in the factories, but, say plant managers, it also is a contributing factor to high morale.





Long Idle Automotive Wood-Working Plants Busy Building Gliders and Bomber Sections

IDLE FACILITIES are being transformed into vital facilities as war uses are being found for the long moribund wood-working plants in the automotive industry.

Once processing a half billion square feet of lumber annually in the manufacture of motor vehicle bodies, multi-million dollar wood-working plants became useless as all-steel bodies came to the fore—until the nation suddenly needed bombers and gliders.

Rated among the finest in the world, the automotive wood-working factories employed thousands of workers to operate the expensive equipment required to process lumber into structural parts for passenger car and truck bodies and tops. Then the all-steel body was introduced. Soon the body top too was made of steel, displacing fabrics supported by wood and steel.

Consequently the wood-working plants, representing millions of dollars of invested capital, were relegated to minor production roles. They were stripped of much of their equipment; other industries purchased machines that were useful in their work. Employes, too, were moved out. Many were shifted to other phases of automobile manufacture.

Now, however, under the exigencies of all-out war, these old plants have been taken "off the shelf."

One of the largest, for example, is now producing sections for one of America's hard-hitting two-motored bombers.

The only activity of the plant, when it was called into the aircraft program nearly a year before Pearl Harbor, was the manufacture of such small body accessories as arm rests. The remaining equipment could not be used in the new aircraft job, so it was moved out.

Hundreds of new machines were then brought in and the plant was expanded to over fourteen acres of floor space—double its previous size. Close to 2,000 jigs and fixtures, some measuring as much as 20 feet long and 10 feet high, also were built before the work got under way.

Outmoded and virtually useless in peacetime, the plant today is operating at greater capacity and with far more employes at work than ever before.

In another old automotive wood-working plant, used in late years for constructing station wagons, a new project—production of giant transport gliders—has recently been undertaken. The first model of the glider, virtually hand-made by the automotive firm, has already been successfully test flown and given approval by the Army.

Differing from the job of the other wood-working plant of the industry, this undertaking calls for the use of a considerable amount of wood. Thus the same skills and machinery are required that previously were used.

The fuselage of the engineless airplane is built around a framework of tubular steel, covered by a long-fiber cotton fabric. Wings are constructed of aircraft spruce and mahogany plywood.

Already many of the glider parts are being produced in quantity at the old plant. Wood craftsmen, idle since the outbreak of war stopped production of station wagons, are back at familiar machines, plying their trade with characteristic precision.

New Device Improves Production of Shells

WHEN SCRAP is reclaimed from the junk pile, material is saved; but when material is kept off the scrap pile by intelligent planning of production, the savings are fourfold—material, time, labor and money.

Salvage of this latter variety is the aim of an ingenious device perfected by tool engineers of a company which formerly manufactured motor cars but is now producing war material.

This device is an "ounce of prevention" gauge which, employed in the production line of this company's shell manufacturing department, has virtually eliminated government rejection of finished shells.

The gauge is a three-pronged instrument which fits into the cavity of 155 mm. shell forgings and pre-determines through mathematics the weight of the finished shell. Applied to the forgings on the moving conveyor which carries them from the rough-turning to the finishing machines, it enables workers farther along the line to nose the projectiles so that the finished product will comply with rigid Army specifications, which allow one pound over or under the prescribed weight.

Since the gauge has reduced rejections from about 10 per cent to less than one per cent, and since it has been used in the production of more than a million shells, the resultant savings are already considerable, whether measured in material, time, labor, or money.

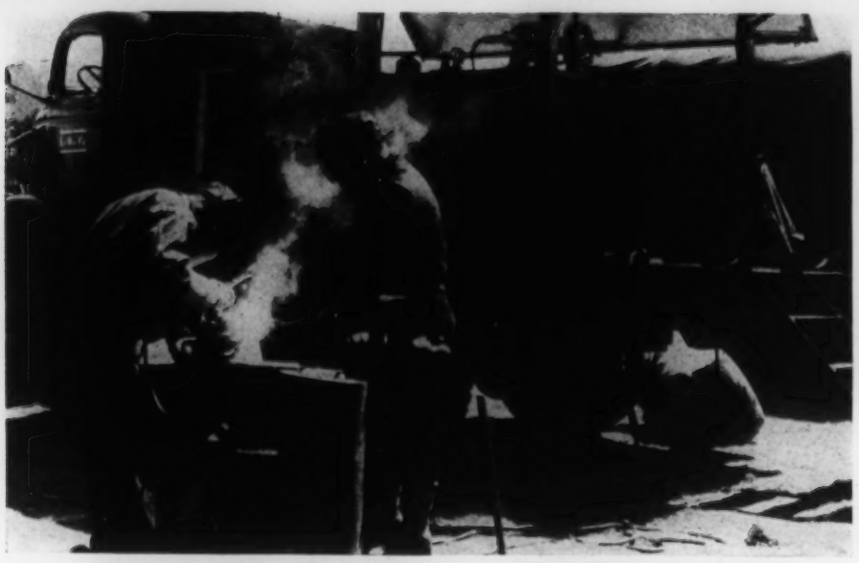
AUTOMOTIVE WAR PRODUCTION

Published by
PUBLIC RELATIONS DEPARTMENT
Automotive Council for War Production

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New Center Building, Detroit, Michigan

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Army's Mobile Maintenance Units Equipped to Keep Virtually All Weapons in Service

BATTLE dispatches from fronts all over the world indicate that American troops are enthusiastic about the quality of weapons that industry is pouring from assembly lines.

Knowing that victory, to a great extent, depends on maintaining this confidence, the United States Army has established rolling repair shops which follow close behind the firing lines, ready and equipped to repair all types of weapons. Of the many types of military vehicles which 29 automotive companies are producing for the armed forces, probably none is more important than the units that go into these battalions.

Each maintenance battalion consists of 30 vehicles, ranging from motorcycles to huge 36,000 pound trucks.



Equipped with vast supplies of tools and replacement parts, the battalion is capable of repairing more than 90 per cent of an armored division's small arms and mechanized equipment.

Equal in equipment to first-class garages is the unit that is devoted to automotive repair. Included among its equipment is a portable gasoline generator, which can be carried anywhere for battery charging. If a minor breakdown has put a vehicle out of action, a small repair kit can be rushed by motorcycle to the scene.

Compact while in motion, these mobile repair shops are quickly readied for work in the field by the operation of a hydraulic pump which opens the sides and elevates the roof.

Hundreds of replacement parts are carried in steel drawers under the work benches. To keep the spare parts in place while the vehicle is in motion over rough terrain, the drawers are clamped into position with locking bars.

In addition to the automotive repair unit, each battalion's equipment includes a machine shop, complete with power-driven machine tools; a wrecking truck, equipped with crane for pulling tanks or trucks out of ditches or mud; a small arms truck, containing tools and parts for reconditioning rifles, pistols and other small bore weapons; and a mobile welding shop, supplied with armor plate and welding equipment for patching damaged armor in tanks or trucks.

Available Materials To Control Output

(Continued from Page 1)

and increased again until in many lines Army and Navy found a production capacity created that outran their strongest expectations. Even so, in some items it was the demand that outran expectations so that on a selective and careful basis expansion of producing capacity continues.

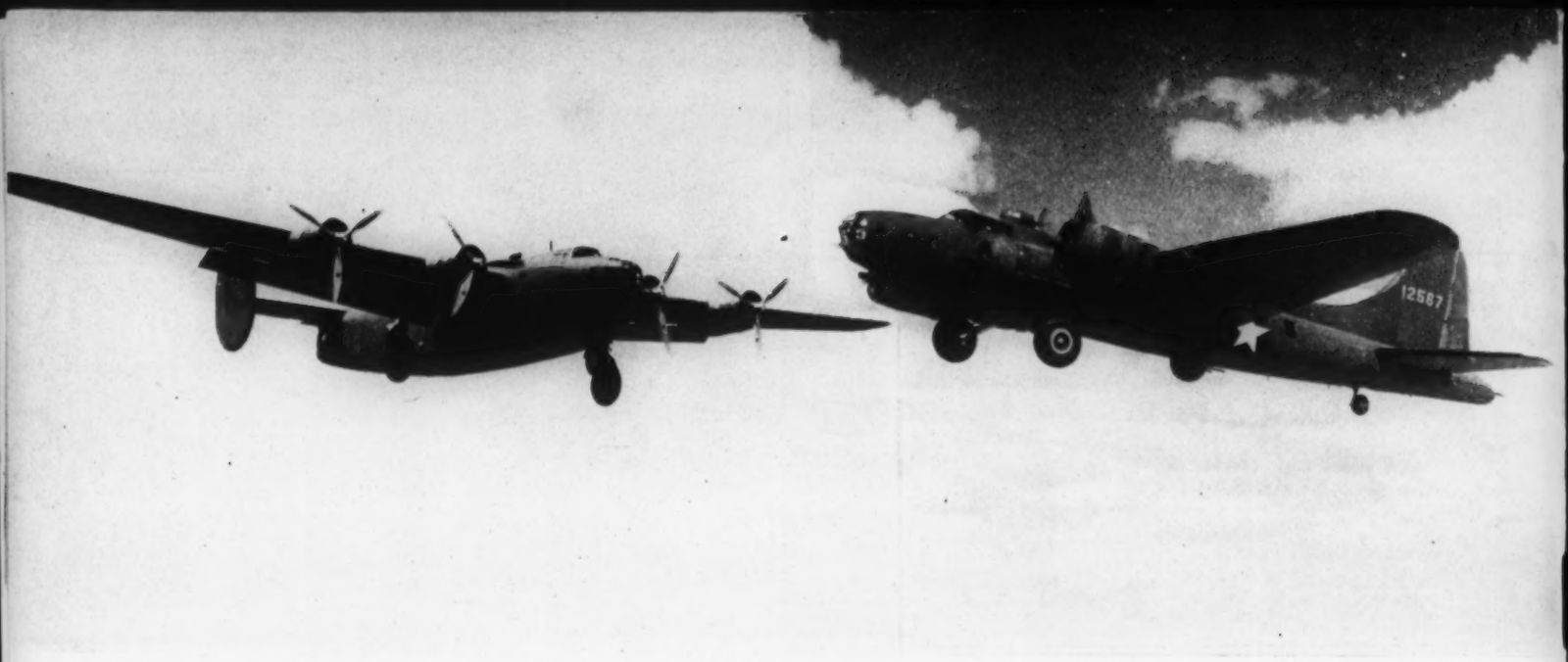
With so much of the expansion accomplished, however, war strategy is calling now for balanced output—so that every ton of raw material available may be processed into the specific types and quantities of armament needed most, and may go to the battlefronts without delay.

This involves making sure that material isn't sidetracked into any items that will have to wait a long time for companion units—whether these be airplanes and their engines, tanks and their guns, ammunition and the weapons to hurl it at the enemy.

More than that, with the total supply of critical materials inadequate for manufacturing everything that could be turned out, the program requires cutting back all secondary items to the minimum in order to make way for the products most vital at any particular time, whether these be bombers or cargo ships, or something else. Army and Navy, as well as civilians, are doing without things they want so as to get those that are indispensable.

Flexibility dictated by strategy and the course of the war, also may involve major changes from time to time, greatly stepping up one product needed for a specific job, and temporarily cutting down to a mere trickle the output of assembly lines set up for another.

With output of goods for civilian use now cut to the bone, and soon incapable of releasing more material, further sources of net increase in war production will be: the relatively small expansion in supply of raw materials still to be accomplished (and this includes all the scrap that can be obtained); more ingenious ways of saving strategic metals in each war product (a research process that is going on unceasingly throughout industry); and close control of the flow of materials and accumulation of inventories (the latter including not only raw materials waiting to be used but also war products waiting for a part to come from somewhere else).



AMERICA'S HEAVY BOMBERS MEET BATTLE TEST

Giant Ships Are Products Of Cooperative Craftsmen

HEARTENING news to workers in more than a dozen automotive factories are the reports now beginning to come from the fighting fronts on the battle performance of U. S. heavy bombers.

Out of these reports there is emerging validation of the American conception of the four-motored bomber as a dominant warplane of the future.

In late 1940, when the heavy bomber still was called a "flying target" by many critics, the automotive industry was called upon to help the already heavily burdened aircraft industry in meeting the nation's first mass production schedule for these huge craft.

By the end of 1941, parts from the automotive industry's learning workers were beginning to flow into aviation industry's assembly plants. By the end of 1942, thousands of newly skilled automotive workers are producing bits and pieces for heavy bombers—fuselage sections, landing gear forgings, armaments, power plants, etc. Production schedules are being met, or passed.

Early critics who believe America's Flying Fortresses and Liberators were inferior to such British four-motored craft as Lancaster, Stirlings, Halifaxes and Manchesters failed to consider that the British planes were designed for the defense of Britain and the American planes were designed for the defense of America.

Built to cover the relatively short distances between bases in England and targets in Germany and occupied territories, the R.A.F.'s big bombers are carriers of enormous bomb loads. Lightly armed, they depend upon fighters for protection. Flying only at moderate altitudes, they are most effective at night.

America's heavy bombers, on the other hand, are designed for daylight attack at high altitudes, with high speed, long-range and powerful armament to eliminate the need for fighter protection. This means commensurate sacrifice of bomb-load capacity.

Effective answers to the critics of the Army Air Corps' big warplanes have been coming to America in a swelling stream of battlefield reports in recent weeks.

One of the most welcome of these reports to hit the bulletin boards in automotive plants was one which told of the shock which *Luftwaffe* pilots got when they rose to attack a daylight flight of Flying Fortresses in their fastest and most heavily armed Messerschmitts and Focke-Wulf 190s.

Accustomed to sitting beyond range of .30-calibre guns and knocking down British bombers with light cannon, Goering's fighters were caught in deadly, long-range, high-velocity cross-fire laid down by the Flying Fortresses, each armed with from ten to 13 .50-calibre machine guns in nose, tail, top and belly turrets.

In one encounter with the daylight-raiding fortresses, the Germans lost 48 fighters in a few moments but the big bombers held their formation, executed their mission and returned to their bases.

Since then additional reports have cheered the automotive workers who are producing parts for the big bombers.

And, although details are censorable, the workers know that changes and adjustments have been made to fit some of the U. S. aerial battleships for short hops with huge bomb-loads.

As in the field of fighter plane design, the preparations of the military and industrial leaders in U. S. aviation seem to have been planned to meet exactly those demands for versatility with which global war unpredictably confronted American air forces.

Coming up from the drafting boards and assembly lines of the U. S. are further surprises for the Axis. The present Flying Fortresses and Liberators are merely forerunners of the heavy-gunned planes to come.

These "big fellows" are uniquely American. Commentators point out that they are the fruit of that kind of voluntary cooperation which carved America out of the wilderness, wrought it into a great nation, and leaped to its defense whenever its status as the hope of free men was endangered. Every Flying Fortress and Liberator that roars into the blue is the product of the teamwork of free minds. Collaboration, such as has been achieved between the U. S. aviation and automotive industries, is an instrument which does not work in hands that bear the scars of shackles. It is America's secret weapon. The more its power is tapped, the greater its strength becomes.

ADVANCE RELEASE

Little-72804
ADVANCE RELEASE: For THURSDAY AFTERNOON Papers, September 10, 1942

OFFICE OF WAR INFORMATION
U. S. DEPARTMENT OF LABOR OWI-447

A large proportion of women in aircraft production can be upgraded through training to fill positions requiring high degrees of skill and responsibility, Secretary of Labor Frances Perkins reported today. Her statement was based on results of a nation-wide field survey made by the Women's Bureau, U. S. Department of Labor, in response to requests from aircraft plants for information on employment standards and jobs for women.

"Women work on most of the manufacturing processes that go into the fabrication and assembly of an airplane," the survey report says. "They are now scattered through many departments as operators in the machine shop; fabricating and forming sheet metal; doing detailed and precision assembly in electrical, radio, instrument, tubing, and cable departments; building up minor and major assemblies of control surfaces for the wings, fuselage, empennage and final assembly; welding; working with plywood, fabrics, and soundproofing; helping in paint, heat-treat, plating, and anodizing departments; inspecting; working in tool and store rooms, and as part of the factory planning, clerical, and messenger services.

"Up to the present women were hired largely to increase growing production forces. However, they will be recruited in large numbers to replace young men going into military service. One company expected to take on 2,000 additional women riveters.

"In one plant where a woman operating a sensitive drill was pointed out as a recent substitute for a man, the leadman explained that on her first day she exceeded her predecessor's production, although he had been on the job for months, and that she has since maintained a daily output doubling his record of about 500 parts. A woman welder in another plant was reported as one of the most efficient in a group of men with whom she worked. She was paid a journeyman's rate of $1.32 an hour.

"Due to varying factors in war production, many firms hesitated to estimate the numbers or proportions of women in their anticipated future personnel, but all the plants visited expected a steady growth in the number of women employees and the production activities assigned to them, indicating that at peak production the number of women will have increased 6 or 7 times the number in the early spring of 1942.

"It is currently estimated that 250,000 women will be in the aircraft industry by the end of this year as compared to some 2,000 women production workers in aircraft assembly plants late in 1941.

(over)

"Women are entering most of the aircraft plants on the same pay scale as men, the most usual rate being 60 cents an hour. A plant in the Midwest has announced its minimum rate for all productive workers as 95 cents an hour. Most women in the plants surveyed were working 48 hours and on the day shift. On this basis, with time and one-half for hours in excess of 40, their weeks' earnings would be $31.20, based on the 60-cent beginning rate. Women's work history in the industry was not long enough at the time of the survey for women to have hourly earnings much above the beginning rate, the report points out.

"The majority of plants reported a minimum hiring age of 18 years but usually stated that preference was given to women over 21. Some added that women from 25 to 40 years were preferred. Special employment policies in regard to family status, such as hiring only wives and daughters of men employees, are fast disappearing as the available labor supply dwindles.

"As the aircraft subcontracting program gains momentum it will come into prominence as a major field of employment for women in war industries, according to field agents of the Women's Bureau who visited plants manufacturing sheet metal subassemblies such as wing sections, exhaust engine manifolds and cowling. A few made oil tanks and gas tanks, bomber turrets, engine mounts and other parts. The superior workmanship of women on stainless-steel welding was commented on by an Army inspector who had given women welding tests. Among them were former waitresses, teachers and office workers. One plant employed more than 100 women as acetylene gas welders.

"A great opportunity for women's employment exists in the subassembly plants because the parts and plane sections are comparatively small and because specialization in production has given rise to a breaking down of operations entailing much more repetitive work which women can learn easily and quickly."

FAIRCHILD *Aviation News*

AUGUST, 1942



DEDICATED TO THE WOMEN OF FAIRCHILD WHO ARE DOING A MAN'S WORK



PHOTO BY TED BURROWS

PHOTOGRAPHER

IN this special issue dedicated to the women of the Fairchild organization, we appropriately secured the services of one of our outstanding women—Lee Novogrod Burrows—for the task of obtaining the photographs which so interestingly illustrate the work now being done by women throughout our plant.

Lee has been with Fairchild for quite a spell—since June 14, 1928, to be specific, when she started as assistant in the 2-person Sales and Order Department, a job now filled by approximately 100 people. Later, as the company began to grow, she filled other jobs, first as secretary to F. W. Lutz, then Vice-President and General Manager, and finally in 1937, as secretary to Mr. Ogsbury.

In 1938, after having worked so many years in an atmosphere of cameras and camera experts, Lee's personal interest in photography as an art medium developed into the point of enrolling in a "photographic workshop," where she took an intensive six-months' course, specializing in portraiture. After that, she was "on her own," converting her apartment into a semi-studio, with the usual "bathroom-darkroom" arrangement of New York photographers, and making tours throughout the city in pursuit of her hobby. Examples of her work have been exhibited in photographic art galleries, and at the Pictorial Photographers of America's show.

In 1941 she was assigned to take photographs of executives and key personnel for the publication "The Men Who Make Fairchild," and, when it was decided to do a similar type of story on the women in the Fairchild factory, Mr. Ogsbury also honored Lee with a photographic assignment, even though industrial photography was a distinct departure from her previous experience. That this, her first experience in industrial photography, has been a distinct success is evident by the photographs reproduced in this issue.

WOMEN'S PART IN FAIRCHILD'S WAR PRODUCTION

FOR twenty years women have graced the Fairchild personnel roster—but in strictly women's work—as stenographers, comptometer operators, clerks, etc. With the advent of the rapidly expanding National Defense program and then the war, women began to invade what was hitherto considered a man's realm—the production line.

It was only little more than a year ago that members of the "weaker sex" made their appearance in the shop—in the newly established motor and coil-winding department and the optical department where deft hands and infinite patience are prime requirements. Soon the demands for greater production in all war industries and the increasing difficulty of obtaining selective service deferments for young men of draft age presented a personnel problem which could only be solved by the employment of more women.

Today it is a common sight to see women, not only on the Fairchild assembly lines but in the machine shop as well, where they are operating milling machines, screw machines, grinders, profilers and gear hobbers with the skill of seasoned mechanics. About 23% of our total factory personnel consists of women and this percentage is increasing steadily. That the ladies have proved their right to these jobs is increasingly evident by the results they have accomplished in the space of a little more than a year. Without exception they are punctual and regular in reporting for work, attentive to their jobs and have an intense desire to prove that they can do a man's job. Many have husbands and sons in the armed services and all are proud that they, too, are performing a service to their country.

In all fairness, however, credit must also be given to the men in the plant, who, by their cooperation and friendliness toward our women workers have given them confidence in themselves and in their jobs.

FAIRCHILD AVIATION NEWS—Vol. V, No. 8—July-August 1942—Published by and for the employees of FAIRCHILD AVIATION CORPORATION, Jamaica, New York. . . . H. K. Yulke, Editor.

IN THE MILLING DEPARTMENT

WHEN women were first employed in our Milling Department many an eyebrow was raised in open skepticism of the idea. *"It won't work,"* said many, *"you can't expect women to operate those big Pratt and Whitney profilers and hold the work to a thousandth of an inch or better."* Well, the women of Fairchild have proved the skeptics to be wrong. Not only are they handling the big machines with skill and efficiency but in most instances their production is equal to that of the men. This is no reflection upon the ability of our men, but rather a tribute to the determination of the women to play a useful role in the war effort. In addition to the Pratt and Whitney profilers, women are operating Brown & Sharp Millers and U. S. Multi-millers. With few exceptions these girls had never even seen machines of this type before entering our plant. Of course, they haven't yet reached the point where they can set up their own jigs and fixtures and for this phase of the job they rely upon the ever-willing cooperation of experienced set-up men.





This Pratt and Whitney Profiler is normally used for precision milling of irregular shapes or contours on large castings but it can handle smaller castings with equally high precision. Above we see Mrs. Josephine Fitzharris milling the side plate of a Unit 211 magazine. Three separate cuts which must be held to a ±.001 inch tolerance are made on the side plate at one setting of the machine. Fly cutters, which are operated at high speed, are used on this machine and provide an extremely smooth finish on the part being worked.

Mrs. Fitzharris is one of the first women to be employed on this type of machine and has proved beyond all doubt that women can do a man's job if given the opportunity. A former "housekeeper" at the Hotel New Yorker where she had charge of over 200 rooms, Mrs. Fitzharris is proud of the part she is now performing in the war effort. The mother of two boys who are members of the R.O.T.C. at school in Rhode Island, she is, herself, attending night school classes in blueprint reading and mathematics.

Although she has had some previous experience on machines, Miss Viola M. Juda (left), didn't even know what a profiler was before coming to Fairchild. Now she finds it "easy" to operate and is mighty proud of the work she is turning out for Uncle Sam. The operation being done in this photograph is a relatively simple one, consisting of cutting a bevel of a radius on a small motor field. However, Miss Juda, like the other women in this department, is skilled in the more complicated operations of the machine, some requiring as many as six different cuts at a single setting, and all being held to ±.001 tolerance or better.



ON THE GRINDERS AND GEAR HOBBERS

ABOUT 30% of the work turned out in the Grinding Department on the first and second shifts is done by women. All of the girls, with few exceptions, received their training here on these machines and after a few weeks proved to be as efficient as the men. Their foreman has this to say, *"Women seem more attentive to their jobs, they are not inclined to experiment and follow instructions closely. Furthermore, they are not ashamed to ask questions when they get into a little difficulty with the job."*

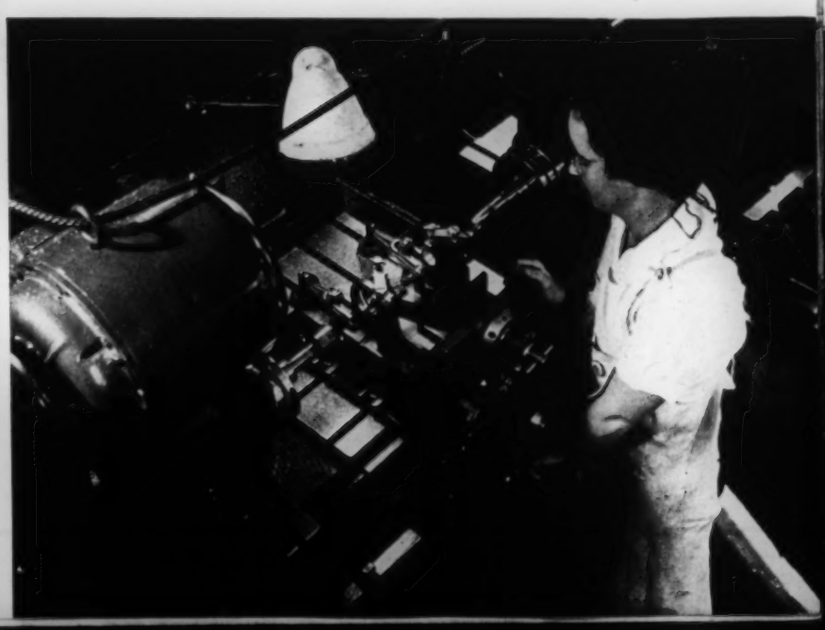
On some jobs the girls work from blueprints and in all cases a set-up man handles the setting up of tools and fixtures.

This month Mrs. Evelyn Reichwein's 18-year-old son enters the Air Corps, while she does her part on the home front as the operator of a Gleason Bevel Gear Grinder. With no previous factory experience, having confined her manual labor to the kitchen, Mrs. Reichwein (shown above at left), was especially trained here for this work. This machine is only one of a large number of Gear Hobbing machines in operation at the Fairchild Plant. All gears including spurs, bevels, worms, and pinions, which are used in Fairchild products, are manufactured here under our own supervision. Although requiring the assistance of set-up men, women have become competent operators.



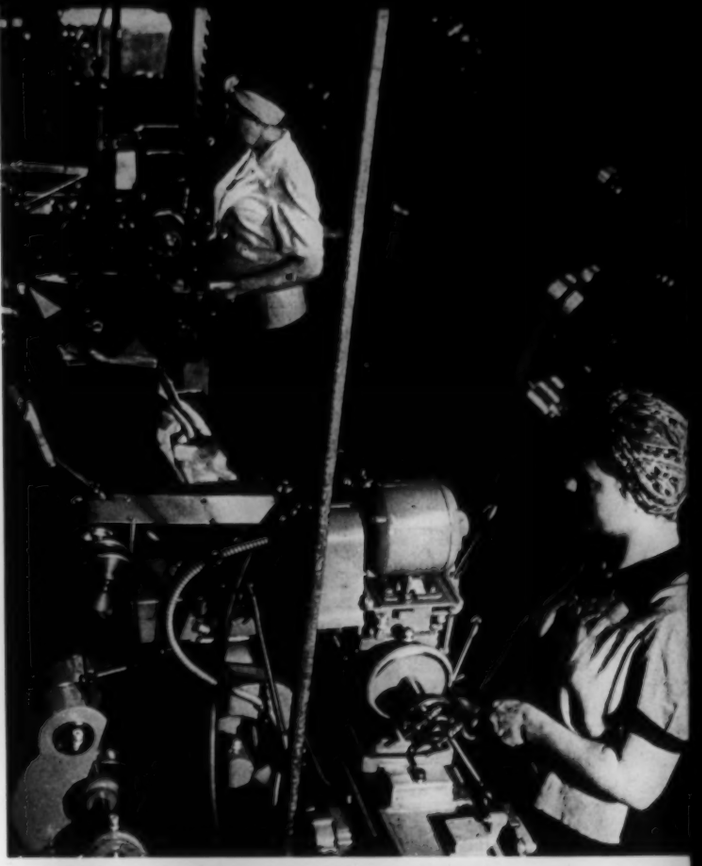
After graduating from the Girls' Commercial High School in Brooklyn, Helen Fabiano (at left below) resigned herself to a stenographer's fate. But such was not the case because now she operates a Barber-Coleman "S" Gear Hobber, and is happy about it because "it's a different kind of a job for a girl." Helen is a very tiny girl, incidentally, but handles her machine with professional ease. Small gears are cut on this machine, the blanks being fed automatically from magazines.

The lot of a "mechanically inclined" girl is a happy one these days, according to Mildred Bretigniere (below). She was always good at fixing the family car and out-of-order household appliances, but she didn't have a chance to prove this aptitude professionally until she came to Fairchild. A former department store clerk, she now operates an Ex-Cell-O Boromatic Machine, which is used to bore external and internal diameters on small camera parts, to tolerances as close as plus or minus .0002 inch. On many of the parts on which Miss Bretigniere works, the accuracy must be so close as to provide seating surfaces for ball



bearings. Working from a blueprint, she is shown here simultaneously boring out in perfect alignment and concentricity two holes of a yoke used in an observation instrument.

Josephine Hodyno and Estelle Bradshaw are shown above at right operating high-speed grinders. Holes of 1/8 inch to 1/4 inch on all small bushings for shutter leaf housings are ground on these machines, and are held to tolerances of ±.0002 of an inch. On internal grinding operations of this kind the small grinding wheels are pneumatically operated at speeds up to 65,000 r.p.m. Camshafts, and worm shafts, cams and similar small parts are also ground to proper dimensions on these machines.



ON HAND AND AUTOMATIC SCREW MACHINES

As in other departments of the machine shop, women are doing an exceptional job in the Screw Machine Department. Here again, unexperienced girls who had never seen a screw machine have been developed into skillful operators. Small parts such as gear blanks, shutter parts, shafts, studs, stainless steel screws, etc., are produced on these machines and some machining of small castings is also done. All require high precision and tolerances must be held close. Although still requiring the services of a set-up man to check and set-up tools and fixtures, this department is unique in that it can boast of one woman operator, Genevieve Kisielewski, who has adapted herself so well to her job that she now sets up her own machine.

When Mrs. Genevieve Kisielewski (below) was assigned to work on the No. 2 Warner and Swasey Hand Screw Machine, several of the men "kidded" her by saying that the machine couldn't be operated by a woman. That they obviously misjudged her dogged perseverance to make good is evident by the fact that she has not only proved that she can operate the machine successfully, but she has displayed skill and craftsmanship equal to that of experienced men operators. Mrs. Kisielewski works from blueprints and sets up her own machine and keeps it running. Before coming to Fairchild, she had 16 years' experience as a punch press operator but had never seen or operated a screw machine. She has a son in the Coast Guard and is glad that *"I'm one of the women left behind who can do a man's work in helping to win the war."*



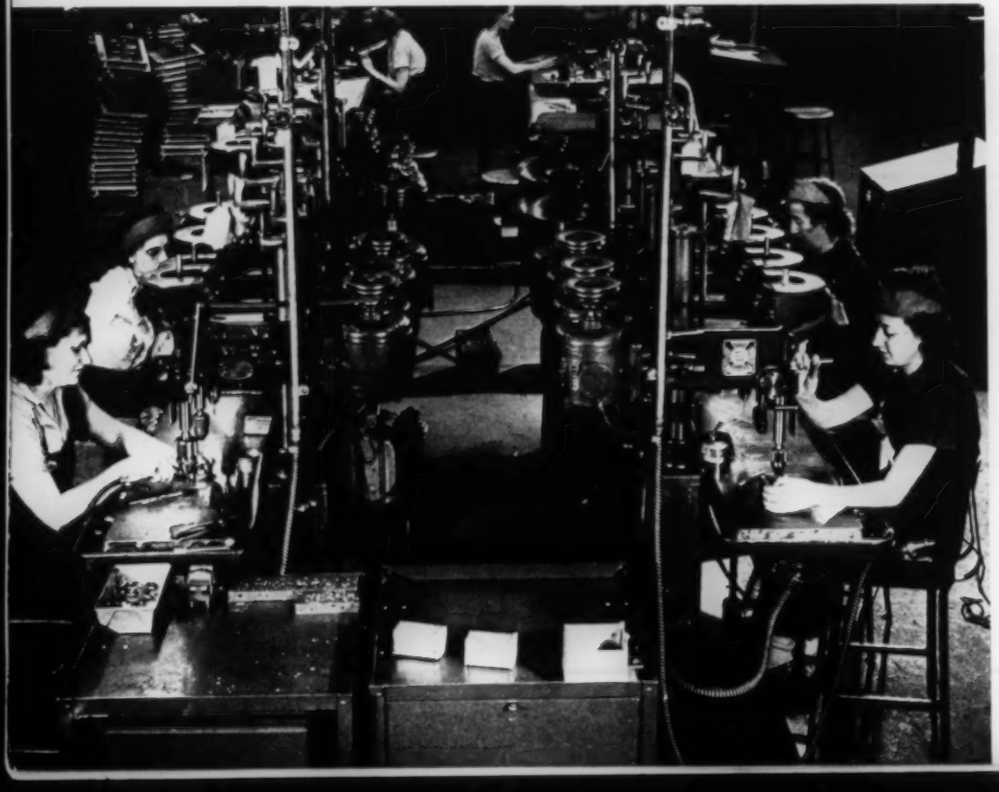


IN THE DRILL PRESS DEPARTMENT

HERE'S a department where women are producing about 40% of the work formerly done by men. Many of the girls working here have had previous experience on small drill presses; but for a goodly number, this is their first experience on any machine. Among the girls now doing a man's job are former housewives, a candy store clerk, a department store cashier, and a masseuse. Their willingness to learn and a desire to be useful in the war effort have made these women skilled workers. At present they are working on small parts which must be held to tolerances as close as two ten thousandths of an inch. They have shown greater dexterity than men on small work and have a very sensitive touch which most men lack. All girls work from blueprints and the machines are checked by a set-up man.



In the photograph below are Helen Cook, Marie Bohenek, Helen Cox, and Helen Luengene operating drill presses on small camera and instrument parts. All except Mrs. Cox have had previous shop experience, but having been raised in a family of eight brothers she had plenty of opportunity to tinker around with tools and is "mechanically inclined." Most of these women attend vocational courses in blueprint reading.



Front to rear in the above photograph are Miss Martha Olsoni, a former masseuse; Mrs. Sophie Skibar, Mrs. Caroline Dodge, Miss Florence Dwyer, former candy store clerk, and Miss Marie Carlton, ex-department store cashier. Mrs. Skibar and Mrs. Dodge have had previous drill press experience and both have husbands in the Army. The other women received their training at Fairchild and are attending vocational school classes in blueprint reading. All have become skilled in the operation of these machines on small parts, such as shafts, gear blanks, small motor housings, and the like where tolerances as close as ±.0002 must be held.





IN THE FINISHING DEPARTMENT

ON tedious bench work, such as encountered in the Finishing Department, girls are performing yeoman service. About 18% of the personnel of this department are women and they are proving as good or better than men on similar types of work which include masking and cleaning all parts before painting or plating, removing burrs from small parts, polishing, buffing, staking small gears and cams on shafts prior to hydrogen brazing, and any number of montonous jobs of this nature. Because of the small size of many of the parts handled, deft fingers are an essential requirement. The majority of the girls empolyed in this department have had no previous experience in shop work and received their training here. A few have had some training in bench work at various trade schools, but in every case they have quickly adapted themselves to their work and all are doing a fine job.

In the photograph below are shown a group of women at work on typical Finishing Department jobs. Those in the foreground are masking and cleaning camera parts before they are painted or plated.

Removing burrs and the polishing of shafts, screws, dials and other small parts is another function of the Finishing Department efficiently handled by women. In the photograph at the top we see Miss Louise Ellers operating a Schauer polishing head machine. Miss Ellers is a former bakery clerk who is now doing her part in War Production.

A few nights a week, Mrs. Myrtle Lund leaves her two children at home to serve as an air raid warden in St. Albans, Long Island. During the day, she also aids in the war effort by her work in the Finishing Department of Fairchild. She is shown in the picture directly above taping and cleaning aerial camera parts prior to painting.









ON THE ASSEMBLY LINES

ON assembly work, women must be versatile because of the varied nature of our products. One week they may be assembling shutters, the next week it may be sextant parts, magazine assemblies, or any one of hundreds of delicate operations requiring deft fingers, deep concentration and more than a little patience. The girls who work on the various Fairchild Assembly lines are trained to adapt themselves to numerous types of jobs so that they may be quickly shifted from one operation to another as conditions require. They are taught the usual hand assembly operations for which they buy their own tools and in addition have received training in the operation of bench drills, riveters, spinning machines and other small bench equipment. A few have been selected to do special work such as stamping name plates, filling in the engraved lines on index marks on cameras, etc. Some have had previous factory experience, while many are engaged in this type of work for the first time.

Operating various types of machines is not exactly new to Mrs. Fannie Cole, who is shown above at left, riveting springs for a roll film magazine. For two years she operated a numbering machine, and prefers this kind of work to the clerical work she did in an office for five years. Like other women in the department she is becoming skilled in the use of other types of bench machines.

Conceded to be one of the best all-round girls in Final Assembly, because of past experience and quick aptitude for the work, Helen Clarke (at left below) is shown operating a spinning machine to "spread out" rivets in a camera magazine sub-assembly. Miss Clarke studied nursing at Brooklyn Vocational High School and no doubt would have been a good one if she hadn't learned to operate a power press in a Brooklyn metal factory. Since then machines have been her preferred vocational specialty.





The "heart" of the Fairchild Aerial Camera is the shutter. Women, because of their inherent skill and finger dexterity are especially well suited for shutter assembly and are rapidly replacing men on this type of work. Under the supervision of experienced male assemblers they have become reliable workers and although relatively new on the job their production is equal to that formerly turned out by men.



"From blues singer to blueprint reader" might serve as a short summary of Ruth Bisso's life. For three years Miss Bisso was the vocalist with swing bands in Port Jefferson and Port Washington yacht clubs. Before that she studied beauty culture at Jamaica Vocational High School. Now she is one of the versatile girls of the Final Assembly Department, who are trained to be proficient in several kinds of jobs there. She is at the upper right drilling a lens cap assembly for an aerial camera. Working in a war industry makes Ruth feel "very useful."

Being one of the versatile, "interchangeable" girls in the Final Assembly Department, Hazel Moeller (right center) can do several jobs there, but especially likes to fill in the engraved index marks of camera cones, a task which requires skill and a "steady hand" and Hazel does it well. Before Fairchild, she worked in a hardware factory.



Betty Robertson (below) has become experienced in handling small, precise parts, having worked for some time in a watch factory prior to her employment here. Aside from hand assembly operations on camera parts requiring skillful fingers she is capable of working on the numerous small machines in the Assembly Department. In this photograph she is shown riveting a spring for the prism housing of a G.S.A.P. Camera.



MOTOR AND ELECTRICAL ASSEMBLY

WHEN Fairchild was compelled by circumstances to enter into the production of its own motors for automatic cameras a little over a year ago, it set a new precedent as to company policy — namely, the employment of women in the factory. Armature and coil winding, soldering, the assembly of small motor parts, the wiring of tiny terminal blocks and numerous other tedious tasks call for deft fingers, extreme patience and infinite care. These attributes are possessed by women in far greater measure than by men, and it is logical then, that women were chosen in preference to men for this type of work. Today this Department is one of the largest assembly departments in the Fairchild organization, with about 60% of its personnel consisting of women. Not only are they adept at all of the tedious assembly jobs but many are showing skill as electrical inspectors. Standing in the foreground is Miss Lillian Ott, first girl employed in the Fairchild Factory and now a supervisor.

Motor production at Fairchild includes the complete manufacture of all motors, motor generators, solenoids and certain transformers used on Automatic cameras. In the lower left hand photograph are shown some of our armature winding machines, all of which are operated by girls. Most of the girls employed on these machines have had previous experience in this type of work.

Field coils for motors are also made in our own plant. Below are two of the Universal Coil Winding Machines used for this purpose. With these machines two girls can produce more than 400 sets of small field coils per 8-hour day.









Another operation performed by women in the production of small motors is the soldering of commutators. This job is simplified by the use of a commutator soldering machine which has been improved by our own personnel to handle several times the amount of work for which it was originally designed. Mrs. Ann Soderquist (above at left), operator of the machine, is a former governess now doing her part to win the war while her husband serves in the nation's fighting forces.

Electrical inspection is another field invaded by women in the Fairchild Plant. Above at the right is Veronica McCarthy who is shown with a Wheatstone Bridge for checking the value of resistors of a photo-cell assembly. Among her duties is the inspection and testing of all incoming and outgoing resistors, condensors, coils, etc.—a job which requires good judgment and experience in the use of the testing apparatus.

The photograph (below at the left) shows Miss Jean Tkacik, a former dress model, testing motor armatures on a Chapman Armeter. This machine is used for checking shorts, open circuits and the like. Every motor used in Fairchild equipment is tested several times throughout its various stages of manufacture.

All cameras before leaving the plant are given a final test by taking pictures with them, and the G.S.A.P. camera is no exception. In the photograph at the right below, Miss Onerva Johnson is shown projecting G.S.A.P. test film on a screen to check for definition, film slip, speed, acceleration of the camera and similar factors.











INSPECTION

COMMON sense, patience and good finger dexterity are requisites for inspection personnel and it is in this capacity that the ladies have again proved unusually capable. Former school teachers, fashion models, clerks, housewives, and waitresses, as the result of Fairchild training, have developed into competent inspectors of raw materials, fabricated parts and finished products. They have become experienced in the use of all kinds of testing and measuring equipment from micrometers to lens collimators and shutter testing apparatus. About 30% of all inspection personnel are women.

All lenses as they are received from the manufacturers are checked in a special lens collimator before acceptance by Fairchild. On this important inspection operation Ethel Blomquist (below at left) has attained high efficiency. Her first experience with optics was obtained here and it is her ambition *"to learn everything there is to know about optics."*

Production inspection requires dexterity as well as patience and alertness. The group of girls, in the photograph at the left above, has been specially trained to use a variety of instruments for checking the tolerances on small parts. Left to right are Marjorie Ruland using a micrometer to check the diameters of small bushings, Edith Jicha, using a comparator for checking the length of the shoulder on small shafts, and Mary Aloiso using a snap gauge to check the outside diameters of small gear blanks.

A graduate in fine arts from Pratt Institute, Harriet Stair (at right above) gave up her job as school teacher when the war began, to train herself for war industry work. She took a special month's course at Delehanty in bench assembly and inspection. At Fairchild she was trained to operate a Rockwell Hardness Tester. No camera or instrument part subject to great strains or stresses escapes this test.

Helen Duncan and Phyllis Rothwell are shown below operating instruments of Fairchild design. The instrument at the left employs an electric eye for checking shutter speeds, and the one at the right is used to check the wind and trip angle of the shutter, detected by a movable arm. The girls were especially trained for this inspection work which requires patience and intelligence. Miss Duncan was once a waitress in the Hotel McAlpin, and Miss Rothwell an insurance office clerk.







IN THE OPTICAL DEPARTMENT

ASIDE from being neat, dexterous and patient to the "Nth" degree, the girls chosen for work in the Optical Department must show good judgment and are usually required to have some knowledge of physics and chemistry. For these reasons we find among the personnel of this department a number of girls who are college graduates and many others who are taking special college courses in these two subjects. The highly precise nature of the work involved has resulted in the development of "Specialists" and although a large percentage of the girls now employed had no previous experience in optical work, they have, through intensive training, become a highly proficient group. Previous vocations of some of these young women include school teacher, chain store supervisor, 5 & 10 cent store clerk, statistical clerk, waitress, housewife and swing band musician. Now they have become skilled in prism silvering and cleaning, lens polishing and grinding, optical assembly, optical inspection, and engraving.

Fairchild now grinds and polishes many of the small optics used in its products. In the photograph at the lower left are shown Edna Dietz and Ellen Banks operating a lens polishing machine, another optical department operation at which women have shown considerable adeptness.

Florence Haase is one of the few women employed in the Optical Department who has had considerable lens grinding experience before coming to Fairchild. She is shown below at the right operating a lens polishing machine.







Prisms for various optical assemblies are ground and polished in the Fairchild Optical Department. Three operations are shown in the top photograph at the left. Left to right are Helen Neger, melting beeswax and rosin for blocking prisms, Stella Mentel, cleaning prisms, and Agnes Stoffa, blocking prisms.

Having once been a waitress, Adeline Zabo (left center) is experienced in the care of "glassware." Her job with Fairchild is to clean and polish prisms carefully, after the silvering process has been finished.



Margaret Cahir was graduated as an honor chemistry student from Hunter College, and now makes good use of her training in the prism silvering division of the Optical Department. She works alongside Caroline Spielberger (left in lower left photo), who admits to playing a mean trumpet in a swing band during her spare time. Credit for adapting the presently used prism silvering process to a production basis in the Fairchild plant also must go to a young woman, Miss Elizabeth Kelly, a former assistant chemist at St. Luke's Hospital, and now assistant to the Foreman of the Optical Department. Miss Kelly (inset), with no previous practical experience in prism silvering, experimented with various solutions and formulae until she found the proper method to fulfill our requirements. Although at first only a relatively few prisms could be silvered daily by this process she experimented further and discovered a way to silver as many as 200 per day.

When Stella Ciesla (below at right) was graduated from Jamaica High School a short time ago, she worked for a while at Woolworth's, but eventually achieved her ambition to work in a war industry at Fairchild. She has been especially trained here to do an extremely delicate and precise job, that of engraving fine lines on optics by means of a pantograph. In this photograph a View Finder glass is being engraved.





Frances McDonnell says that she was *"always interested in science"* and is now doing a job entirely to her liking in the Optical Department. To measure the exact radii of test glasses, Miss McDonnell is shown above at right with a spherometer. Readings taken from this instrument are put into formulae, from which the radii are computed. After she was graduated from Brooklyn's St. Joseph's College for Women, Miss McDonnell taught algebra and geometry at John Adams High School for a time. When she first came to Fairchild, she worked in the Accounting Department, but happily the increased opportunities for women here opened up the way for her present work.



Another precise optical inspection job for which women are ideally suited is checking the accuracy of level bubble vials which are used on various Fairchild Instruments. Mrs. Mary Heenan, a former school teacher is shown in the second photo from the top using a checking microscope for this operation.

The girls in the lower right hand photograph are, left to right, Dorothy Chapman, Catherine Cleary, Eleanor Winter and Gloria Dooley. They are optical inspectors trained especially for this work under our own supervision. Lens assemblies for G.S.A.P. cameras are the subjects of their careful scrutiny before final installation on the cameras.



Mrs. Clarice Norton found her picture in the newspapers a few months ago when she was the first woman to be selected for the Government-sponsored optical course at New York University. She was graduated as a sub-engineer and came directly to Fairchild, where she is one of the women experts in the Optical Department. At the left below, she is shown testing the angle of movement of an aerial sextant. Mrs. Norton is the mother of two small children and finds that the best time to continue her study of optics is on the subway to and from her job each day.





The young lady below, Zabel Kazanjian, is shown immersed in her work of assisting Mr. Peter Zaremba in the industrial planning division of Engineering. Fresh from a New York University course in industrial management, Miss Kazanjian's job is to keep a detailed record on all personnel in the Engineering Department, charting man-hour schedules and project control sheets for some 70 draftsmen and as many or more projects under way. This is another job formerly handled by a man.





WOMEN INVADE THE ENGINEERING FIELD

As much a novelty as women in the machine shop are women on the drafting boards of the Fairchild Engineering Department. All of the *draftswomen* employed here have carved niches for themselves in either art or industrial designing before coming to work here. Mary Jean Alexander (left, in the above photograph) studied and practiced art in Paris and Rome, and may soon have her first water color show if she ever finds time to put the finishing touches on her pictures. She was an interior decorator with a New York firm for three years. The other girls, Bertha Matson, Anita Kremer, and Janet Smith, are all graduates of art schools and were costume and textile designers before the war started. Now all four are engaged in work once done exclusively by men, and they expressed "pleasant surprise" at the discovery of their mechanical aptitude. They work together as an integrated group, with Miss Alexander as supervisor, and their progress may eventually qualify them for junior detailing positions.

RAGING BATTLE OF THE SEXES!

(EDITOR'S NOTE)—*The following item, we must confess, is a very inappropriate ending to the foregoing series extolling the women of Fairchild. Maybe it's plain cussedness but we just had to report that our fair gals are no match for the men when it comes to matching wits on the radio.*

On Tuesday evening, June 23, Fairchild's "Battle of the Sexes" took place between four members of the Fairchild Camera School for men of the armed forces, and four charming ladies of the first floor office:

The Ladies:
Muriel Bingham
Evelyn Garrabrandt
Frieda Leissler
Josephine Menendez

The Men:
Photographer, 1st Class, Peter "Stony" Miller, U.S.N.
Sgt. Thomas G. Waller, U.S.M.C.
Staff Sgt. Edwin M. Rothberg, U.S.A.
Private Carl E. Christian, U.S.A.

The radio quiz program was arranged by Joe Lawton, through the courtesy of Mollé Shaving Cream, sponsor, regularly conducted on Tuesday nights, by Frank Crumit and Julia Sanderson, well-known radio stars.

The first program started at 9:00 P.M., the second, a West Coast hook-up at 12:30 A.M. Were any of the girls scared? Well, not much.

Soon after Julia Sanderson opened the quiz program, and presented the contestants, the brain-twisters were hurled at the boys and girls. The boys missed up on several questions that the girls answered, especially Evelyn and Muriel, but the girls missed a few, too, which were *duck soup* for "Stony" Miller and the score ended 147 to 115 in favor of —the boys! The gentlemen each received gold Bulova watches (most of them selected the ladies' style); and the girls received Westfield watches.

About 200 people were in the audience to cheer the contestants, among them a number of Fairchild notables.

WANT BETTER PHONE SERVICE ?

Here's how you can help . . .

CLOISTERED in a small, isolated room on the third floor of the main building are the seldom seen, but most frequently heard, of all Fairchild employees —our telephone operators. Their voices are heard constantly throughout the day paging people over the public address system, and we have only to pick up our telephones to have them efficiently at our service. Performing one of the most vital services of the company as our link in a far-reaching communications system, these girls work under greater and more sustained tension than any other workers in the organization. Certainly their job is not an easy one and more often they are criticized than praised.

Good telephone service is necessarily a matter of cooperation between the telephone user and the operator. So, the next time you make a call or your telephone rings remember that you, too, have a responsibility in making our telephone service efficient. Here are a few simple suggestions which, if followed, will help you to receive better service.

DO

Answer your phone or public address call promptly. Five seconds is usually sufficient time—but ten seconds permits efficient service. Long delays in answering causes extra cords to be plugged in on the board and prevents the operator from handling other calls.

Answer your phone by giving your name, say "John Jones speaking" not a mere "hello." When answering a public address call say, "This is John Jones," not merely "John Jones" because the operator may mistake your name for another call to be made and confusion will result.

Notify the operator when you find it necessary to be away from your desk for any length of time. If possible, tell her where you may be reached, or arrange for someone near your desk to receive your calls during your absence.

Look up your own numbers for outside calls, and give the operator the number clearly and concisely.

DON'T

Flash the operator if the service isn't as prompt as you think it should be. Only confusion and additional delay will result.

Pick up your phone while continuing a conversation with someone near you, give your telephone calls priority.

Ask to have some one paged and then hang up the receiver. Hold it until your party has been located and the call completed.

Make unnecessary calls.

These are simple rules—aren't they? Yet, if followed, they will do much to help you to obtain prompt and efficient telephone service. Let's give our operator's a "break" by cooperating as suggested above. We'll be helping ourselves to better service, too!



Introducing our telephone operators —Left to right are: Marguerite Renz (standing) Kay Maquire, Betty Newton, Dolores Maxwell and Hazel Byrnes. Theirs is a difficult assignment—you can help them and yourself by lending your cooperation.



ENTHUSIASTIC - ISN'T SHE!

WOMAN

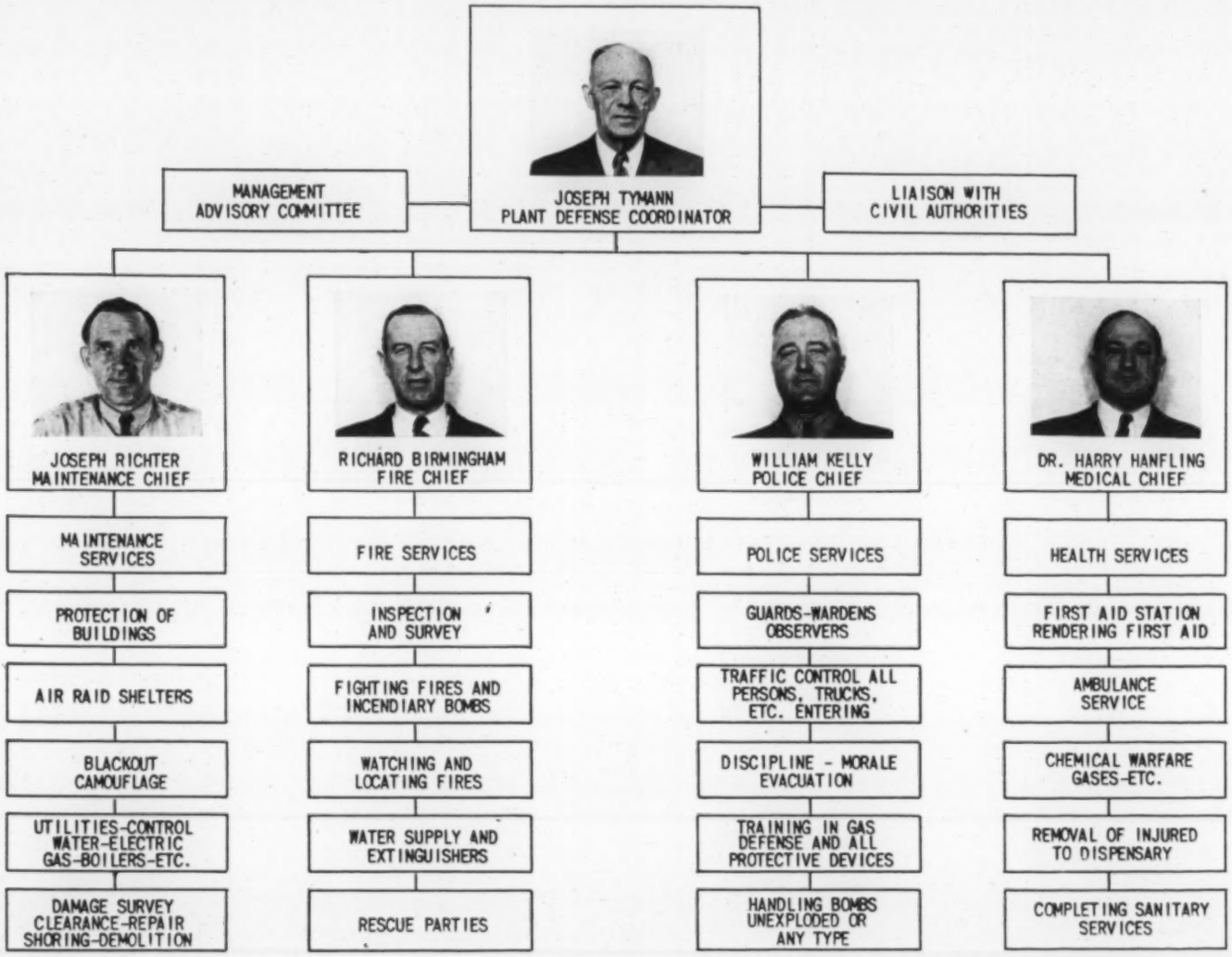
Woman she's an angel in truth, a demon in fiction.
A woman's the greatest of all contradictions.
She's afraid of a cockroach, she'll scream at a mouse,
But she'll tackle a husband as big as a house.
She'll take him for better, she'll take him for worse,
She'll split his head open, and then be his nurse.
And when he is well and can get out of bed,
She'll pick up a tea pot and throw it at his head.
She's faithful, deceitful, near-sighted and blind,
She's crafty, she's simple, she is cruel, she is kind.
She'll lift a man up, she'll cast a man down,
She'll make him her hero, her ruler, her clown.
You fancy she's this, but you find that she's that,
For she'll play like a kitten, and fight like a cat.
In the morning she will, in the evening she won't,
And your always expecting she will, but she don't.

WANTED

Portable typewriter in good condition.
Please communicate with me.
L. N. BURROWS.

AIR RAID PRECAUTIONS

To provide adequate protection for employees in the event of an air raid, a well-organized plant defense system has been set up with Joseph Tyman as Plant Defense Coordinator. Serving under him as heads of various units are Joseph Richter, Maintenance Chief; Richard Birmingham, Fire Chief; William Kelly, Police Chief; and Dr. Harry Hanfling, Medical Chief. The heads of these units have been chosen on the basis of their experience and the entire Fairchild organization has every right to feel secure under their able direction. An organization chart of the Plant Defense plan is shown below.



AIR RAID INFORMATION

Below is given air raid information which, if followed, will assure the orderly handling of all personnel during an emergency. The alerts listed and the directions to be followed should be memorized by everyone.

THE ALERTS

The alerts will be given by means of a high pitched tone sounded over our speaker system, or by sounding a whistle or a siren.

There will be three alerts and an all-clear signal as follows:

FIRST ALERT: One long sound given three times.

SECOND ALERT: One long and one short sound given three times.

THIRD ALERT: Two long sounds given three times.

ALL-CLEAR: One continuous long sound.

WHEN AN ALERT IS SOUNDED

When the FIRST ALERT is sounded all employees should immediately close all black-out windows nearest them and then continue on with their work. At the same time FIRST ALERT WARDENS will immediately report to their assigned posts.

When the SECOND ALERT is sounded SECOND ALERT WARDENS will immediately report to their assigned posts and all other employees will continue to carry on with their work.

When the THIRD ALERT is sounded all other wardens, members of the fire, maintenance and medical services will take their assigned positions. All other employees will immediately STOP whatever work they are doing, walk by means of the nearest exit to the SECOND FLOOR AREA of their building. All are requested to remain cool and calm and away from the windows and are not to run, push, shout, or cause any disorder or disturbance.

WHEN THE ALL-CLEAR IS SOUNDED

When the ALL-CLEAR is sounded, all employees will return to their own areas in an orderly fashion, open up the black-out windows, and carry on with their work as usual.

ACTIVITIES OF WAR PRODUCTION DRIVE COUNCIL GREATLY EXPANDED

COMBINING their efforts in a great unified attempt to win the Battle of Production, Labor and Management recently set up the machinery which will inevitably boost the output of the Fairchild Aviation Corporation.

The organization of the Drive represents a considerable amount of hard work on the part of the Main Committee and much credit goes to Messrs. Draghi, Miner, Beltzer, Brown, Johnson, Haselbacher, Knorr, Cabot, and Bachmeyer for their patriotic efforts.

Because of the tremendous number of problems which seemed to spring up from everywhere, the Committee deemed it necessary to form special sub-committees. A call for volunteers brought a gratifying response from many employees who offered to give their own time to the work of their committees. From the list of volunteers, the Main Committee picked several men who seemed to have the requisites of good chairmen. A meeting of the chairmen and Main Committee was held to outline the objectives of the sub-committees. Immediately after their formation the sub-committees began to function independently and have tackled their jobs with enthusiasm.

TRANSPORTATION COMMITTEE

The Transportation Committee under the chairmanship of John Hartel plunged into its work immediately and in a very short time, fifteen hundred questionnaires stating individual transportation problems were collected. From these questionnaires, a card system was established whereby the employees were grouped by localities and shifts, enabling the pooling of cars and providing convenient transportation for a large number of workers.

Through the efforts of this committee seven hundred and fifty "A" ration books were issued at the plant, thus saving a considerable number of production hours. In cases where rail or bus transportation was causing hardship and difficulty for employees with "A" books supplementary "B" books were issued, and car pooling systems inaugurated.

The Committee is also planning to assist some employees in the procurement of tires and bicycles.

EFFICIENCY COMMITTEE

With Charles Westerstrom of the Production Office at the helm, the Efficiency Committee has launched its broad campaign to find better ways of doing things in every part of the plant. In many cases, other sub-committees have provided problems for the Efficiency Committee to solve.

The problem of borrowed tools has been coped with and a satisfactory means of remedying the situation is being worked out. Various methods of saving time during the machine set-up period are also under consideration.

A visual education program to supplement classroom lectures has been proposed for all inexperienced employees. This plan would be carried out on the employees' own time, thus causing no interruption in production.

SLOGANS, POSTERS, AND BULLETINS COMMITTEE

Under the leadership of Harold K. Yulke, this sub-committee is prepared to devote its meetings to actual production of posters and slogans suggested by other committees and emanating from the committee's own members. In addition to some crack amateur talent, there are also some professionals in the ranks. Distribution of posters received from the various government agencies is one of the duties of the committee. From time to time, bulletins will be issued on items of special interest to the employees.

COMMITTEE ON ABSENTEES AND TARDINESS

The work of this committee headed by Jacob Lang will increase with the compilation of data by the Personnel Department. A system has been put into effect whereby complete absentee and tardiness records are being kept on file. In a short time, chronic cases will become apparent and the proper corrective measures taken.

MORALE AND DISCIPLINE COMMITTEE

The Morale and Discipline is piloted by Harry Forgeron. In response to complaints from many employees that our identification badges were causing undue wear on clothing, the Committee has purchased leather holders. These holders sell for 15c and are available to all employees. Distribution in the factory will be taken care of by tool crib attendants, and in the near future someone will be appointed to take care of office needs.

To aid the company in its enforcement of the badge area system, larger color charts in glass frames will be placed in key positions throughout the plant.

As a means of providing cigarettes to Fairchild employees now in the armed services, the committee has had token boxes made. These boxes appropriately painted are being placed in conspicuous locations throughout the plant enabling all employees to put their spare pennies to good use.

TOOLS AND STORES COMMITTEE

The Tools and Stores Committee was originally headed by Edward Lay who started many worthwhile projects. For personal reasons, Mr. Lay resigned and the Committee is now led by Mr. Julius Minkow.

Methods of improving the processing and manufacturing plan of parts and tools have been discussed. A plan is now being formulated which will effect better distribution of tools from cribs to machines.

Perpetual inventory cards for all bins in the tool cribs are also being considered by the Committee.

Various means of assuring up-to-date identification of tools in regard to operation numbers and part numbers have also been discussed.

HEALTH AND SAFETY COMMITTEE

The Health and Safety Committee was organized under William Miller. Because of the pressure of other activities, Mr. Miller felt that he could not do justice to the chairmanship and tendered his resignation. The Committee is now guided by Nurse Orena Madge, head of our dispensary. This committee is charged with the responsibility of decreasing injuries in the plant and improving the well-being of all of our employees. Safety devices, hazards, and unsanitary conditions are but a few of the problems to be faced by the Committee.

LABOR AND MANAGEMENT URGE COOPERATION WITH WAR PRODUCTION DRIVE COUNCIL

All sincere members of Fairchild's War Production Council and its sub-committees have the opportunity, nay, the duty of serving a high purpose in precedent-shattering fashion. To wit, the calling upon and meeting of minds with one fixed intent—minds united for the formidable task of even outdoing noted American Industrial Production. So far our best is not good enough.

Combined for "All-Out" war against America's enemies, all of us should prove worthy of our past heritage and strive for its continuance.

WILLIAM MAGEE
President,
Fairchild Local No. 1217

"The Committee has worked hard to set up the organization necessary for the success of this campaign. The sub-committee chairmen have been well-chosen and there is a lot of work ahead. If every individual in the organization gives his utmost cooperation to the work of these committees, it is inevitable that a rise in production will result."

R. A. DRAGHI
Works Manager

SUGGESTION CONTEST WINNERS

THIRTY-FIVE employees received cash awards varying from $5 to $25 in the Suggestion Contest during May, June, and July. Out of approximately 250 entries submitted during this period 39 ideas were accepted as practicable, a very good indication of the quality of the suggestions submitted. Four contestants proved their versatility by winning prizes for two different ideas.

The highest individual prizes of $25 each were awarded to Lawrence Childs and Harry Forgeron. Joseph "Bud" Jonke was next in line with a $20 award and in the July contest came through with another $5 winner. An extra round of applause is due "Bud" for another idea which won him a $25 War Bond in a contest conducted by "Wings" magazine in cooperation with various aviation companies and the U. S. Government. Two $15 checks were presented to Anthony Garbarczyk. Other winners in this class were Dorothy Astley, Louis Mastrocola, George Diehr, George Zahrobsky, Anastasio Hasterlis, John Verardo, William Lippert, and William Gredick.

Edwin Feidner pocketed $20 for two $10 suggestions and John Stonitsch and John Riemer also received $10 prizes.

Andrew Sengstacke led the $5 class with two awards. Other winners include: Lee Burrows, Thomas Lyons, Evelyn Reichwein, Werner Moeller, Jack Bishop, Alfred Grotheer, Julian Zaremba, Bertha Black, Ruth Carpenter, Peter Penta, Thomas Cali, Andrew Mastanduono, George Muller, Pat De Bellis, Paul Spitzig, John O'Leary, George Walsh, Hugh King and Elsie Noon.

While most of the suggestions offered constructive ideas which will undoubtedly prove valuable, there are two points which the suggestion committee would like to stress. First is the fact that the voicing of criticism without offering an alternate means of alleviating the condition accomplishes no concrete results. Thus, it will enhance the chances of receiving awards and save the committee a considerable amount of time if the contestants will bear this in mind.

It is also requested that all sketches included with suggestions be made on separate sheets of paper.

The present system of impartial judgment will remain in effect. Under this set-up, the name of the contestant remains annonymous until the awards have been made. Upon receipt of a suggestion, it is passed on to the men in supervisory capacity who are most likely to know about the subject. These men *do not make the decisions,* but merely pass an opinion on the merits of the idea. The judges investigate the opinions, and in cases where the supervisors have not been in favor but investigations prove that the idea is practical, the rejection is overruled.

Accepted suggestions are listed and checked periodically for the purpose of determining their ultimate value. If the idea proves more valuable than was originally anticipated, an additional award may be made.

If you have an idea that will aid production or improve working conditions or systems, think it over carefully, and write down a complete suggestion. You may be the next winner!

WE'RE SORRY!

The past two months have been hectic ones, what with a special issue of the News on our hands. We hope you like the results of our efforts even though it has been at the expense of one regular (July) issue. We wish to apologize to those reporters who faithfully submitted their contributions for inclusion in this issue but, for lack of space, their columns have been omitted or severely cut down.

Your interest in the Fairchild Aviation News is highly gratifying and it is our hope to keep publishing it regularly and to include the kind of information you like—articles that are entertaining, instructive and informative.

Your comments and contributions are always welcome. Let us have them.

ODDS AND ENDS

Well it looks like Julia Cucco of Final Assembly really has something to brag about. Her boy friend, Salvatore Silipo, a welder in the Pearl Harbor Navy yard, recently covered himself with glory when he saved 32 sailors from death. For this he received a citation from Washington. So please excuse our Julie if she drops a part once in a while as she is pretty much excited.

* * *

The Treo Wildcats have changed their name to the "G.S.A.P. Bombers" and finally crashed through to their first victory of the season by beating the Hawkeyes 5-2. . . . Flushed with victory the Bombers are taking on all comers. See Frank Savio.

Six of our Engineering "Shining Examples" recently betook themselves to Coney Island (The pride and joy of Mayor LaGuardia) and collected various degrees of sickness from all the roller coasters. Apparently our girls are made of sterner stuff, for they turned a much lighter shade of green than did the boys.

* * *

Engineering has been going all-out for horseback riding of late. So far the only casualty has been Steve Baur's blisters, which met defeat when he sat down at work.

* * *

George Wunch raw vegetarian of the paint shop tried to induce the fish to go vegetarian on the fishing trip of June 21. Harold Carter awoke from a sound slumber to chum for mackerel, then went right back to sleep. What a relief! James Acierno the swashbuckling captain gave sailing orders from a prostrate position with his rusty old sword.

* * *

The Optical Department has passed its first year. Several of the girls celebrated their first anniversary here. The year-old girls are: Adele Wagner, Betty Martin, Catherine Cleary, and Stella Ciesla. Adele has never been late or absent—a fine record—keep up the good work.

* * *

John Reimer of Tool Design was married on his vacation the week of July 25th. The lucky girl is Vi Kissner.

* * *

Frank Stellwagen of Engineering, has also jumped off the brink and into the sea of matrimony.

* * *

Katherine Hedburg, Optical, has become a blushing bride . . . lots of luck for a very happy future, Kay.

* * *

William Gleason, that nice young fellow who is a volunteer fireman, and foreman of the second shift Grinding Dept., has become the proud father of a baby girl.

* * *

Something new has been added to the Andy Fiordilino family. Andy tells us it was a baby girl weighing 9½ lbs.

In April the employment of women in 36 plants was about 17,500.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
WASHINGTON

WOMEN IN AIRCRAFT ASSEMBLY PLANT UNION--as of March 1942.

Of a total of 28 aircraft assembly plants visited by industrial experts of the Women's Bureau, 9 had agreements with AF of L (Aeronautical Division of the International Machinists), 6 had agreements with CIO (United Automobile Workers) 3 had independent unions, 7 were not organized and 1 was scheduled to hold election. The other two plants were under construction. Five employed no women.

Of the 23 plants employing women 9 were independent or had no organization. Eight plants were organized by AF of L and 6 by CIO.

Union authorities report that the proportion of women in the unions is as high as that of men, in some cases higher. Union ag reements in the California plants have the same policy for women as for men--the beginning rate for both sexes is 60¢.

In all 28 plants the prevailing beginning rate is 60¢. The range of beginning rates is from 30 to 65¢. In only 1 out of 14 organized plants was the beginning rate different for men and women. In this plant men receive 55¢ and women 50¢.

Item form the Baltimore Sun, Baltimore, Md. Feb. 21, 1942

MORE TRAINED WOMEN URGED FOR INDUSTRY

U. of Md. appeals for additional ones to take courses

Defense plants to increase forces soon as they can get them

So successful have women proved as production workers in defense industry, particularly in airplane manufacturing, that industrialists in this area are planning to hire many more as soon as they can be trained.

Yesterday an appeal came from the University of Maryland for more women to go into training for the work in defense plants. A number of free courses are offered to them.

No tuition charge

These courses are being held in Baltimore, Hagerstown, College Park and Washington. Only graduates of high schools and colleges are eligible, and the courses last from twelve to fifteen weeks. The students pay their own expenses and furnish books and supplies, but no charge is made for tuition.

"The Glenn L. Martin Company now is employing approximately 2,000 women, and we want more of them as soon as they are trained." an official of the company said last night.

"Of these 2,000, only about 500,are employed as office help, and the others are production workers. They work side by side with men and are doing an excellent job."

Experiment began in October

"We started this experiment only last October, and to date we have made what we regard as the outstanding application of women to the defense industry in the country.

"We started with about twenty women, putting them at work alongside of men, and the trial has been so successful we proceeded to increase that number as rapidly as we could.

"The principal factors in making the experiment were two. One of these was that more stringent selective service requirements were cutting down the available supply of man power for our plant. The second was our desire to keep as large a local personnel as possible.

No partiality shown

"We didn't want to bring in a lot of men from other cities and add to the housing problem which was and is acute. By hiring women we contribute nothing to add to this problem.

"These women had to do men's work and do it as well. And they are doing an excellent job. They are treated just like men, they receive the same wage scale as men and are given the same opportunities for advancement.

"But, by the same token, the same work standards are demanded of them as of the men. No partiality is shown to either.

Employed on many jobs

"Nor have they asked any quarter. Not a single one of them has asked for a favor which is not granted to men. They are doing a man's job with the efficiency of the men, and are even keeping the men on their toes."

He disclosed that they are employed in virtually all of the manufacturing processes which go into the making of an airplane. They are working at riveting, drilling, on machine operations, punch presses, big power shears, bending machines, at bench work with mallet and hand dies, electrical assembly work of all kinds, including the extremely complicated junction boxes.

They have been particularly efficient on subassembly work, assembling whole sections of planes, belt-conveyor lines, as timekeepers, inspectors and in the stockrooms.

"Our program," the official continued, "is to continue to hire women as fast as they can be trained in the vocational schools and vocational courses. We are going to need a lot more help this spring and we look to women for a large part of it.

"One requisite for employment is that the applicant must have vocational training, and we are taking large numbers who have been trained at the Girls' Vocational School and School No. 250."

Wear slacks

He disclosed that all of the women workers wear slacks, although the company hopes to equip them with uniforms before long. Thay also are required to wear hair nets or head coverings and low-heeled shoes as precautions against accident. Open-toe shoes are likewise taboo.

"There's no primping and peering into mirrors every few minutes either," he said with a grin. "Nor application of lipstick or powder.

"When I asked them their reasons for coming down here to do a man's work, I generally got either one of two reactions. Some said - and they meant it, too - that they wanted to do something for their country. The others declared they received better pay."

Excerpt from the Washington News, Washington, D.C. - March 16, 1942.

FIRST HUGE BOMBER ASSEMBLY LINE ROLLING 'EM OFF FAST

A moving line to assemble bombers as big as several freight cars is a very different thing from the lines used in making autos that weigh a ton or two.

The fact that there are about 106,000 parts in a big Consolidated bomber, and that 600,000 rivets and two or three hundred thousand bolts and nuts are used in putting these parts together, may give you some idea.

The process begins, long before the assembly line is reached, in towering buildings, that seem to one walking thru them, to extend for miles, and where thousands of workmen - and workwomen - are dwarfed among mazes of machinery.

Small parts a re put together to make small sub-assemblies, and these in turn are joined to others to become larger and larger sub-assemblies and finally a complete wing or fuselage. By some magic, each of the myriad parts arrive at the spot where it must be used at the precise instant when it is needed.

Wings and fuselages meet at the door of the building that houses the assembly line. There they are welded together and mounted on rolling platforms, each platform seeming as large as a city building lot, and all coupled together in a traveling chain that stretches almost out of sight down one broad corridor and back up another.

As the embryo bomber moves slowly past one "station" on the assembly line, workers swarm over it and inside it. By the time it has passed their "station" they have completed their share of the process. The plane takes aboard a new crew of mechanics, and the first crew returns to its starting point for another busy ride on the next bomber.

So it continues, the plane gradually going past many "stations" , acquiring engines, instruments, landing wheels, equipment in bewildering variety, until it finally emerges into the sunshine - ready for final testing, fueling and flight.

Ohio
Jan-June 1942

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

Women in Ohio War Industries

The principal woman-employing war industries in Ohio are the aircraft and parts industry, and ordnance manufacturing. The latter includes shell loading, the manufacture of artillery components, cartridges, tanks, tank parts, gun mounts, etc.

Ohio has been very slow in taking on women in these industries but now there is a notable increase in job opportunities for women, even a scarcity of women workers in the Ravenna, Akron and Youngstown region. Many plants that have not previously employed women are now providing facilities for their employment.

It has been estimated that when the war industries have reached their peak production and the anticipated number of men have been inducted into the service, over twice as many women will be needed in the war industries as were employed in the manufacturing industries at the time of the 1940 census, and at least half of these will have to be trained.

Aircraft and Parts Industry

New plant construction and conversion programs have been one of the outstanding industrial developments in Ohio in the past few months.

In number of plants, many formerly making automobiles and electrical equipment will begin large-scale hiring when conversion to production of airplane parts is completed. Up to now, relatively few women have been employed in this industry; three of the large plants are now employing less than 1000 women. However, more than half of the thousands of new workers to be added by these firms will be women.

As many as 50,000 additional workers will be required by this industry within the year, and more than half of these employees will be women.

Ordnance

The ordnance industry is also undergoing further expansion. Large new plants are being built, those already in operation are expanding rapidly, and other plants are being converted for the manufacture of ordnance products. Over 40,000 new workers will be taken on this year, and one half or more will be women. Cleveland now employing about 1000 women in this industry plans to triple the number of women on their payrolls during the next six months, and other plants not now employing women will hire them in large numbers. One large new plant being built in the state plans to employ about 10,000 women.

In the Cleveland Ordnance District in March, 314 women were employed on its inspection staff. By the end of 1942, the Ordnance Office expects that 50-60 percent of its inspectors will be women. They receive the same training as the men.

Rubber

In most cases, the opportunity of released rubber workers for re-employment is very good, as rubber companies are requiring large numbers of workers for their new ordnance and aircraft department, and there is a tendency to hire women wherever possible. Over 8,000 women were employed in the rubber industry in Akron in July, 1941, and the larger woman-employing plants now have war contracts that will require many more workers. The rubber industry in general has been reconciled to the fact that experienced workers are no longer available and they see the need for training inexperienced workers and hiring women to an increasing degree.

Rubber companies are accustomed to making quick changes in production and for that reason were able to transfer to war production more readily than most industries. The companies have branched out more and more into non-rubber production and employment now is definitely on the up-swing. Those persons who were temporarily laid off have been or are being recalled, and no further large lay-offs due to curtailment of rubber are anticipated because of rapid conversion to war items other than rubber.

Training

Extent of training of women in Ohio
National Defense Training program

	Total	Women	
		Number	Percent
Pre-employment			
Cumulative, July 1, 1941--April 30, 1942	45,688	3977	8.7
On active file, April 30, 1942	11,054	1721	15.6
Supplementary			
Cumulative-July 1, 1941-April 30, 1942	18,401	243	1.3
On active file-April 30, 1942	5,567	161	3.0

Industry in general is working on the training of women wherever possible to offset the depletion of young men up to Feb.1942. No women could be referred to N.D.T. training classes unless there was relative assurance they could be employed. Up to this time there had been no women in the training classes in either Cleveland or Cincinnati. In the week ending March 28, 1942, the first group of 46 women were placed in the machine shop classes in N.D.T. training schools of Cleveland to receive 10 weeks training. Cincinnati was more backward than Cleveland in training women.

The Goodyear Aircraft plant has set up a large scale pre-employment training program for men and women.

Curtis Wright also has set up its own training school, where it trains most of its unskilled workers. It has a machine shop course and an aircraft riveting and sheet metal fabricating course, each six weeks in duration. In December 1941 women were first placed in this training school and in March there were nearly 300 in the sheet metal and fabricating classes. They are given same training as men. All women must be trained in this school prior to employment unless they have some exceptional skill or ability. Practically all the women now employed except for some inspectors and power machine operators have gone through this school.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

21 Essential War Industries - U. S. Employment Service

("Occupations Suitable for Women", Feb. 1942)

(Checked (✓) industries are now in operation in Ohio. Data as to numbers of women employed are not available).

- ✓ Ordnance and accessories
- ✓ Industrial chemicals
- ✓ Ammunition
- ✓ Petroleum refining
- ✓ Iron and steel
- ✓ Firearms
- ✓ Railroad equipment
- ✓ Aircraft and parts
- ✓ Shipbuilding and repair
- Motorcycles, bicycles and parts
- Nonferrous metal foundries
- Aluminum products
- ✓ Electrical machinery
- ✓ Machine tools
- ✓ Automobile and auto equipment
- ✓ Instruments, photographic and optical goods
- Utilities
- Models and patterns
- ✓ Communication
- Common carriers, (air transportation included)
- ✓ Air transportation service

In addition to the checked industries above, other goods manufactured by Ohio firms for War use are:

Cloth, Serge	Caps
Cloth, Wool	Jackets
Blankets	Underwear
Duck	Sweaters
Mattress covers	Shoes
Sleeping bags	
Tent slips	Mimeograph paper
Wiping cloths	Mattresses

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

Employers' forecast of employment in selected war industries,
January - June 1942

Number of workers currently employed, number to be hired, and number to be laid off - Ohio

[Based on reports received by U.S. Employment Service during January 1942]

(Nothing as to women separately)

State	No. of establishments visited	Total currently employed	Total hires	Total lay-offs	Net hires Jan.-June
Ohio	1,276	567,215	62,035	7,572	54,463

Consult also "The Labor Market", issued by the Bureau of Employment Security [and probably available in your local Employment Service office]: Issues of

April (pp. 11, 13, 14),

March (pp. 13-18),

February (pp. 16-21),

the two latter giving general information about labor in the Great Lakes region.

A few typical war industries in Ohio, and women employed

(selected at random from various newspaper clippings)

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

City	Firm	Old product	New product	No. of women
Akron	Goodyear	dirigibles	riveting, sheet metal assembling aircraft parts	women increased 100%
		rubber heels, tires	gas masks, gas tank brace	women have doubled
			for dirigible gondola in barrage balloon rooms	" " "
			rubber boats, life preservers	women
	Firestone Tire & Rubber Co.		balloon (barrage) rubber landing boats	Women

"Akron war industries will need 20,000 women within the next 7 months"
(June 1942, Labor Supply Committee)

Cleveland	Thompson Aircraft Products Co. (new plant)	(known)	1,000 parts for planes and engines	women to replace men - triple the 800 women now employed

"Women could hold two thirds of the jobs in steel mills"

Cincinnati	Crown Overall Mfg. Co.	(known)	dungarees for U.S. Army	women

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

City	Firm	Old product	New product	No. of women (if indicated
Dayton	National Cash Register 70% in war work 100% by October	(known)	parts for shells, cartridge machines for antiaircraft carburetors and dozens of other war products	60% of force now women
	Delco Products div. of General Motors have used 75% of old machinery and 100% converted	shock absorbers, coil springs, motors, generators, etc.	high explosive shells	
	Frigidaire div. of General Motors	(known)	50-caliber machine guns, airplane propellers, hydraulic valve assemblies for airplanes	many sections in the machine gun plant were operated almost entirely by women

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

Occupations of females 14 years old and over in Ohio in manufacturing - (except emergency work

(U. S. Census, March 24-30, 1940)

	Number of women
Food and kindred products	4,844
Tobacco manufactures	2,330
Cotton manufactures	225
Silk and rayon manufactures	113
Woolen and worsted manufactures	1,839
Knit Goods	1,155
Other textile - mill products	514
Apparel and other fabricating textile products	13,308
Lumber, furniture, and lumber products	1,980
Paper, paper products, and printing	6,082
Chemicals, and petroleum and coal products	1,600
Rubber products	5,304
Footwear industries (except rubber)	6,167
Leather and leather products (except footwear)	452
Stone, Clay and glass products	6,458
Iron, steel, nonferrous metal products, and machinery	17,252
Transportation equipment	3,664
Other and not specified industries	3,737

NEWS





TRAINING BY MOVIES

See Page 8

Boeing NEWS

VOLUME XII • NUMBER 9

SEATTLE, WASHINGTON

Published monthly for all Boeing employees by the Public Relations Department, BOEING AIRCRAFT COMPANY; Harold Mansfield, Public Relations Manager; Richard Hubbell, Assistant.

Byron Fish, *Editor;* Reynolds Phillips, *Assistant Editor;* Keith Kinsman, *Art Director;* C. H. Lucas, George Robertson, *Art Associates;* Gordon Williams, Vern Manion, *Staff Photographers*

IN THIS ISSUE

Alexander the Swoose
PAGE 3

★

Boeing Aircraft College
PAGE 5

★

Round Trips by Day
PAGE 6

★

Now Showing
PAGE 8

★

The Fumblethumbs
PAGE 11

★

All Signs Point to a Ride
PAGE 12

★

Softball and Golf Champs
PAGE 14

★

Photo Finish
PAGE 15

★

ON OUR COVER—*Army Air Forces mechanics at the Flying Fortress school watch the B-17 in action. They also get close-ups of how to service the plane. The training pictures are produced by Boeing's motion picture department (story on page 8). The cover photo was taken by Gordon Williams.*

THE ENEMY IS BUSY, TOO

WHILE most Allied air experts seem to agree that high-altitude bombing, as conducted by Boeing Fortresses, is one of the outstanding developments of this war, it would be unwise to assume that the stratosphere is a one-way American boulevard. Recent reports from the European zone tell of occasional bombs that have fallen from the stratosphere over England. They came, it is reported, from a newly developed German high-altitude bomber, a Heinkel.

Boeing has given the United Nations a head start of several years in high-altitude bombing, but the very fact that the Germans are following our trail should convince us that we must make the most of our time if we are to keep our lead. The enemy is smart, and very busy too.

WOMEN'S SUPERVISOR APPOINTED



TO HELP the rapidly growing number of Boeing women become adjusted to jobs that are entirely new to most of them, Boeing this month appointed a women's supervisor, Miss Vera Harris.

With headquarters in the department of Factory Manager Perry V. Ogden, Miss Harris will serve as a contact between shop supervisors and the women who work in the production plant. In her hands will be placed the matters that affect women as aircraft producers. She will discuss these problems with shop foremen and department superintendents, and will talk with the women on their own individual problems which are related to their work in the factory.

The chief task of Miss Harris will be that of adapting women to the phases of aircraft work that affect them particularly. Included in this category are matters of women's safety, of their health, their mode of dress, and methods of work which will enable them to avoid all unnecessary physical strain. Part of her job will be to see that in the swift rush of new employees into the Boeing plants, no women are employed on work that is beyond their physical capacity.

"Very few women have worked in a large factory before," said Miss Harris. "For even those who have worked many years, this is something different. It isn't easy for some of them to adjust themselves to the noise, the discipline, the type of work they are called upon to do. I hope I can be of help to them."

Close contact with women in industry has given Miss Harris an ideal background for her work at Boeing. For a number of years she served with the Philadelphia Y.W.C.A. as an executive in the industrial department, dealing with the problems of women employed in various industries. Coming to Seattle in 1930, she accepted a similar post as executive in the business and industrial department of the Y.W.C.A. here. For the past year and a half she has been state supervisor of girls' projects for the National Youth Administration.

Miss Harris is proud of the job women are doing in America's war effort, and she feels that part of her own job is making women realize their importance in winning this war.

"Women are doing men's work now; they are accepting men's responsibility," she declared. "They realize the necessity for doing their job right, and they are going to play just as big a part in winning this war as the men."

Blind Persons Fight Blind Aggression



Wide World

Nimble Fingers Play Role Against Axis

Hands of blind persons, more sensitive than those of others, are shown sorting miscellaneous aluminum rivets for making airplane parts. They were photographed in Detroit.

Fine Touch Opens More Jobs In Aviation Plant to Blind

Special to The Christian Science Monitor

DALLAS, Texas, July 29—The excellent sense of touch and the manual dexterity of blind persons has been so aptly displayed at the North American Aviation, Inc., plant here that the company is planning to place other blind persons in jobs which they can handle.

Thomas Stone of Dallas and Louis Scott of Forth Worth today are employed in jobs here where their excellent finger work enables them to turn out jobs on a par with those who have full use of their sight. They are stationed on the "burr bench" in the machine shop where they smooth off the rough edges left by drills on metal parts.

These two workers were placed in the plant following a survey by North American in co-operation with the State Commission's placement experts to determine jobs which could be filled by the blind.

Testimony as to their success has been offered by their supervisor, according to North American, who declared that "they are among the best workers we have."

As for the two workers themselves, they are highly pleased over their jobs, not only because it is remunerative but produces the satisfaction that they are directly contributing their bit to help win the war.

"It's a fine feeling to know that we can also do our part in the war effort," Miss Scott said. "We want to help all we can, and this is one of the best ways we can find to help. Everybody here has been very nice to us and has helped us in all possible ways."

At first it was necessary to accompany them into the factory and out, but now they have learned the way so well that they can find their work benches alone.

Mr. Stone received his training at the Lighthouse for the Blind in Dallas, and Miss Scott was formerly employed as a Braille reader.

Does Liquor Issue in Can Need Act

Continued from

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Women in Defense Plants: Two Views on Efficiency

What women are doing in war industries, how they are faring, what changes their presence is forcing on the industrial scene, are subjects being reported in a series by The Christian Science Monitor's representative, one of a group of American newspaperwomen now touring war plants under sponsorship of the National Association of Manufacturers.

By Mary Hornaday
Staff Correspondent of The Christian Science Monitor

LOS ANGELES, Calif., Aug. 22—Out here on the West Coast you hear two different stories about the efficiency of women in airplane plants.

Executives of two plants—Boeing Aircraft in Seattle, Wash., and North American Aviation, Inc., in Los Angeles—have indicated to 15 women reporters traveling with the National Association of Manufacturers slight disappointment that women are not fitting into the factory mold as rapidly as they had hoped.

"Their vanity interferes here and there," declared J. L. Atwood, Executive Vice-President of North American Aviation, who said his company has had a series of "minor problems" with women employees. He complained of women letting down their flowing locks in disobedience to a company rule that hair must be covered near machines. Women workers as a whole, he said, were "getting away with things that men wouldn't" and have not moved up to higher skills as rapidly as they might.

Same at Boeing

Mr. Atwood's remarks corroboborated statements made to the newspaper women earlier in the week by H. Oliver West, Vice-President of Boeing, who complained that too many women seemed to have taken jobs at his plant for "other than serious purposes."

You hear the other side of the story from plants that have hired more older women or have been able to adjust their plants to the hiring of girls more gradually. Also, you hear from the workers themselves.

"I'm proud of us," declared Mrs. Marie Wright, who was supervising several other girls working on the installation of a de-icer boot at North American. Mrs. Wright said she though the girls took orders "pretty well" and were willing, eager workers.

"I think the girls are really doing their part 100 per cent," said Mrs. Bernice Gueso, mother of four-year-old twin boys, whose husband is an airplane mechanic in Honolulu. Mrs. Gueso said she hoped the plane she was working on would mean that her husband would come home soon.

Worker Denies Flaw

At that point a foreman came by to complain about a flaw, which Mrs. Gueso insisted was not her work. He, too, reported that "generally speaking, we can't squawk about the women. Most of them have got a husband out there somewhere that they are anxious to have come back," he said.

Earlier Mr. Atwood had told reporters that there was no limit to the jobs to which women could be upgraded if they would buckle down and exert more determination than they are at present. Absence rates at the present time are a little higher for women than for men, he said.

The North American Vice-President admitted that the company had made its universal head-covering rule and others relating to women without consulting representatives of their sex.

Recently, he said, the company had begun to realize that perhaps the rules were made on too much of a "shot-gun pattern," and has taken steps to modify them. The girls at the plant have no chosen representative. Some belong to the union, others do not. When the management has a problem relating to them it calls in a group of girls that are considered "level-headed" for advice.

North American is employing close to 1,200 women in jobs exclusive of office work. Ten times as many women are working in the plant today as were in December.

Despite his remarks about women, Mr. Atwood said he thought the number employed "will go up rapidly from now on." The problems that their employment had presented, he said, was not a "major handicap."

Many of North American's slack-clad girl workers have migrated here from the Middle West. Working on the same fuselage was Lillian Braga, who formerly worked in a grocery store in Eveleth, Minn., and Fern Trusty, of Excelsior, Minn., who had been a domestic worker and waitress back home. Both had come west especially to work in an airplane plant, and to feel they were having some part in winning the war.

The planes they were working on are the same kind of bombers that Brig. Gen. James Doolittle used to bomb Tokyo.

Women start in North American at 60 cents an hour without any previous training at all. For time worked over 40 hours they get time and a half. After a three-month probationary period, they are raised to 75 cents an hour; thereafter their wage depends upon the classification of their job. All wage rates for women are exactly the same as for men.

Train Own Workers

Most of the airplane plants in Southern California are training their own workers rather than sending them to Federally-financed vocational schools because they consider that the latter training is not specific enough.

Eighteen is the minimum age for women hired at North American. Although plant officials say there is no top age limit, most of the girls in the plant today are in their early 20s.

Housing is not the problem in the Los Angeles area that it is in other defense centers where families are sleeping in basements and trailers. Neither is the labor problem as acute as in some other cities. Through the Aircraft War Production Council, Inc., made up of Consolidated, Douglas, Lockheed, North American, Northrop, Ryan, Vega and Vultee airplane companies, the plants in this area are looking into the possibility of establishing nursery schools to take care of children of working mothers, but officials admit the problem has not become acute in this area yet. Presumably the nursery school program will be financed by the Federal Government, which requested the surveys.

All sorts of women work at the North American plant. Mrs. Gertrude Laufer, employed on the electrical sub-assembly department, and Mrs. Lottie Hillyard, covering department, have sons in the Navy. Marjorie Meadows, employed in the wood shop, holds the world's record for the women's 50-yard dash. Mariana Tucker, in the tubing department, was a performer with Sonia Henie's Hollywood Ice Revue and turned down an opportunity to appear in "Iceland" for her present job with North American. "Jackie" Maull, blueprint engineering department tracer, was formerly a Powers model in New York.

Employment of Negro women has been begun recently at the request of the President's Committee on Fair Employment Practices. Plant officials said they intend to take on about the same proportion of Negro women as there are in the Los Angeles population.

The plant employs a women's counsellor, Mrs. Dorothy Lewis, former social worker in New York and Los Angeles, who listens to girls' tales of woe and, if they are important enough, reports them to the management.

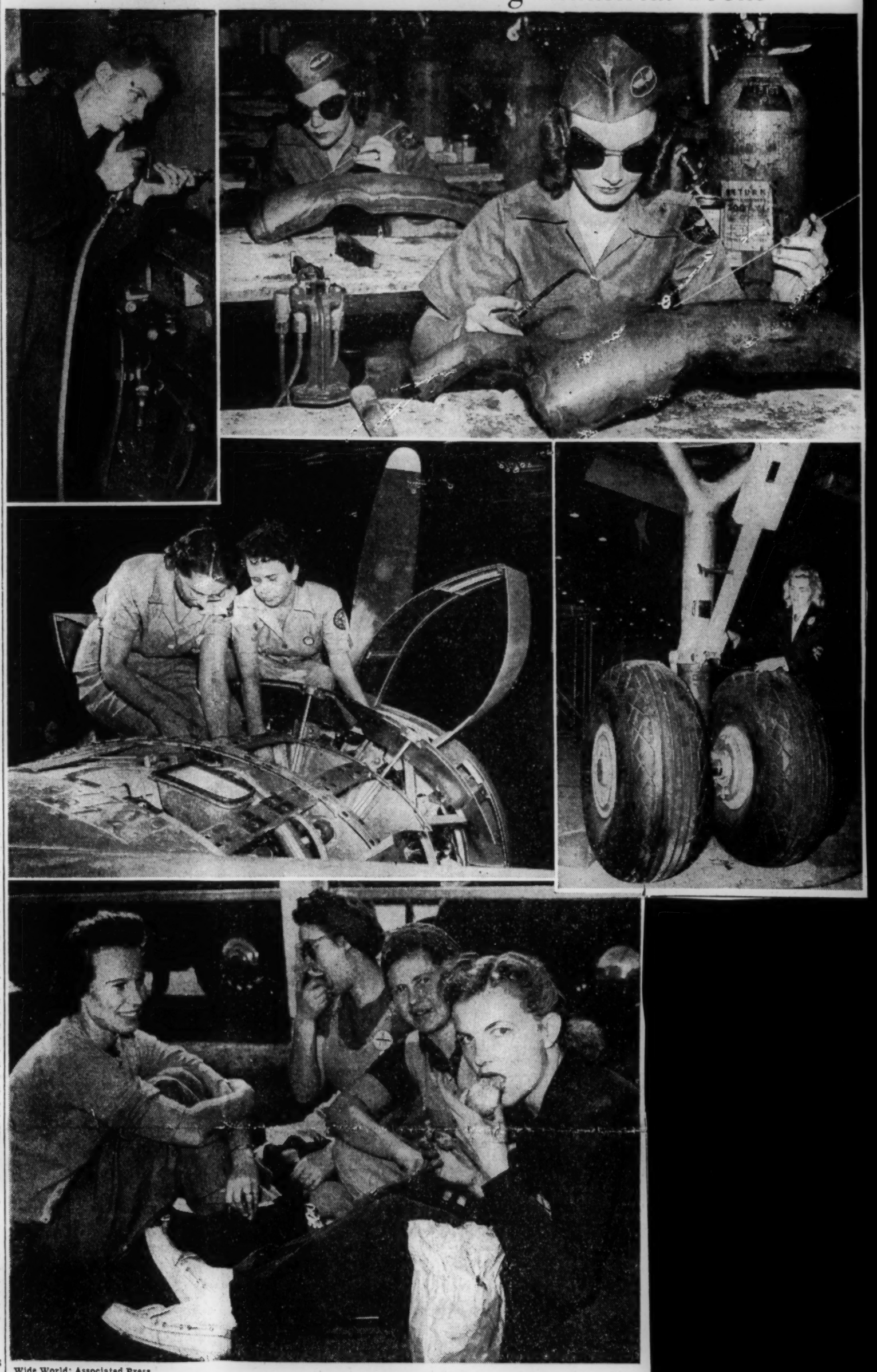
Home Problems

Most of the problems the girls bring to her are purely personal, yet if unsolved, may interfere with the girl's productive efficiency. Domestic help, budgetary and marital problems are the ones Mrs. Lewis hears most of. Mrs. Lewis said she had had no complaints of production line romances interfering with work.

Plant officials said the turnover in both men and women at the plant was "alarming," but indicated that women have a little more stick-to-it-tiveness than men. Personal problems rather than better wages are the usual reason for change, since the wage rates in this area are about the same everywhere.

R. E. Dawe, factory manager, gave much the same report on women as Mr. Atwood. "Where we have the proper tooling they can carry on" he said "but it will probably be a long time before they reach the point where they can develop a new airplane at the rate they are going."

Women on America's Teeming Industrial Front



Wide World; Associated Press

Victory Version of Warplane Builders

Top left: Pearl Harbor's widows have taken up the fight where their husbands left off. Here Mrs. Fern Evans handles a riveting machine at a Lockheed aircraft plant near Maywood, Calif. Top right: The first two women acetylene torch welders in the North American Aviation, Inc., plant near Dallas, Texas. Mrs. Dorothy Whitfill, foreground, and Miss Wilma Brown were both cashiers in drug stores before working for North American. Center left: Two women workers go over one of the 14-cylinder motors equipping the huge B-24 bombers being built at the Consolidated Aircraft Corporation's new plant in Texas. Center right: Toni Baumeister, woman inspector of the Douglas Aircraft Company in Los Angeles, inspects one of the two dual-tired landing wheels of the C-54 combat plane. Bottom: Four women workers at lunch time on a lawn adjoining the Lockheed plant at Long Beach, Calif. Left to right: Miss Ruth Sawyer, Mrs. Evelyn Casola, Mrs. Ruth Schoonover and Mrs. Evans. The latter three were widowed by the Japanese assault on Pearl Harbor.

Girls Learn Plane Mechanics At Aviation Center Near Utica

First Contingent Begins Four Months' Training, Housed in Quarters Built for Boys

By LUCY GREENBAUM
Special to THE NEW YORK TIMES.

MARCY, N. Y., Oct. 3—A crash heard in the vicinity this week was of a bottleneck breaking. It started to split as the streamlined doors of the first NYA girls' resident center in the field of aviation mechanics in the country swung open to meet the labor shortage in aircraft repair.

The noise was actually only a novice dropping a wrench. Girls from all over New York State to whom airplane maintenance is a mystery were becoming acquainted with tools and terminology. Seventeen-year-old Eleanor Davoy of Croghan puzzledly picked up a protractor. Leora Franks, aged 18, of Staten Island, former stenographer, gingerly wiped grease from a milling machine off her fingers.

Several girls gathered around a Pratt & Whitney 525 horsepower Hornet engine. "Air cooled," nonchalantly explained a one-day veteran.

The new center, caught in the Adirondack foothills between Utica and Rome, looks like a fragment of the World's Fair. White stucco and glass brick merge into modernistic lines.

First Intended for Boys

Girls are in it by the grace of the war. The $300,000 project, with administration building, dormitories and school, was originally planned for boys.

"When we saw the trend of things, when the war came, we swung it into girls," Pierre DeBaun Jr., regional deputy administrator, told the first contingent of twenty-five girls.

The dormitories are a grease-monkey's dream. Cubicles consisting of double-decker beds stretch out row after row, a quartet to a cubicle. After the girls had moved in it was only a matter of minutes before maple bureaus were piled high with toy pandas, photographs of men in uniform and bottles of perfume.

A lounge induces laziness with comfortable leather chairs, a fireplace and radio. The cafeteria, cheerful with orange-covered chairs and Venetian blinds, will be used for dancing and movies during leisure hours.

The prospective mechanics, all between 17 and 25, get $10.80 a month plus room and board and emergency medical service while in training. In addition to taking courses in inspection, maintenance and repair of airplane engines, basic electricity, parachute repair, sheet metal fabrication and airplane structure, they will help set up the machinery, much of which is still to arrive, and do their own maintenance work around the center.

There was moaning that gas and tire rationing would prevent boy friends from making frequent visits.

To Toni Bongiorno, 17, who worked in a Buffalo department store wrapping bundles, came the idea of a pool. "We'll have to get them together so they can all come in one car," she said.

There was audible approval and the girls went back to instruction in the transmitters and engines which will be their responsibility for the duration.

Girl "Grease Monkeys" Start Training



Aviation students at Marcy, N. Y., wash up.



Beginners get a close-up of an airplane motor.



First aid for recruits installing machinery.

The New York Times



Beginners get a close-up of an airplane motor.



The New York Times

First aid for recruits installing machinery.

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Jobs Waiting

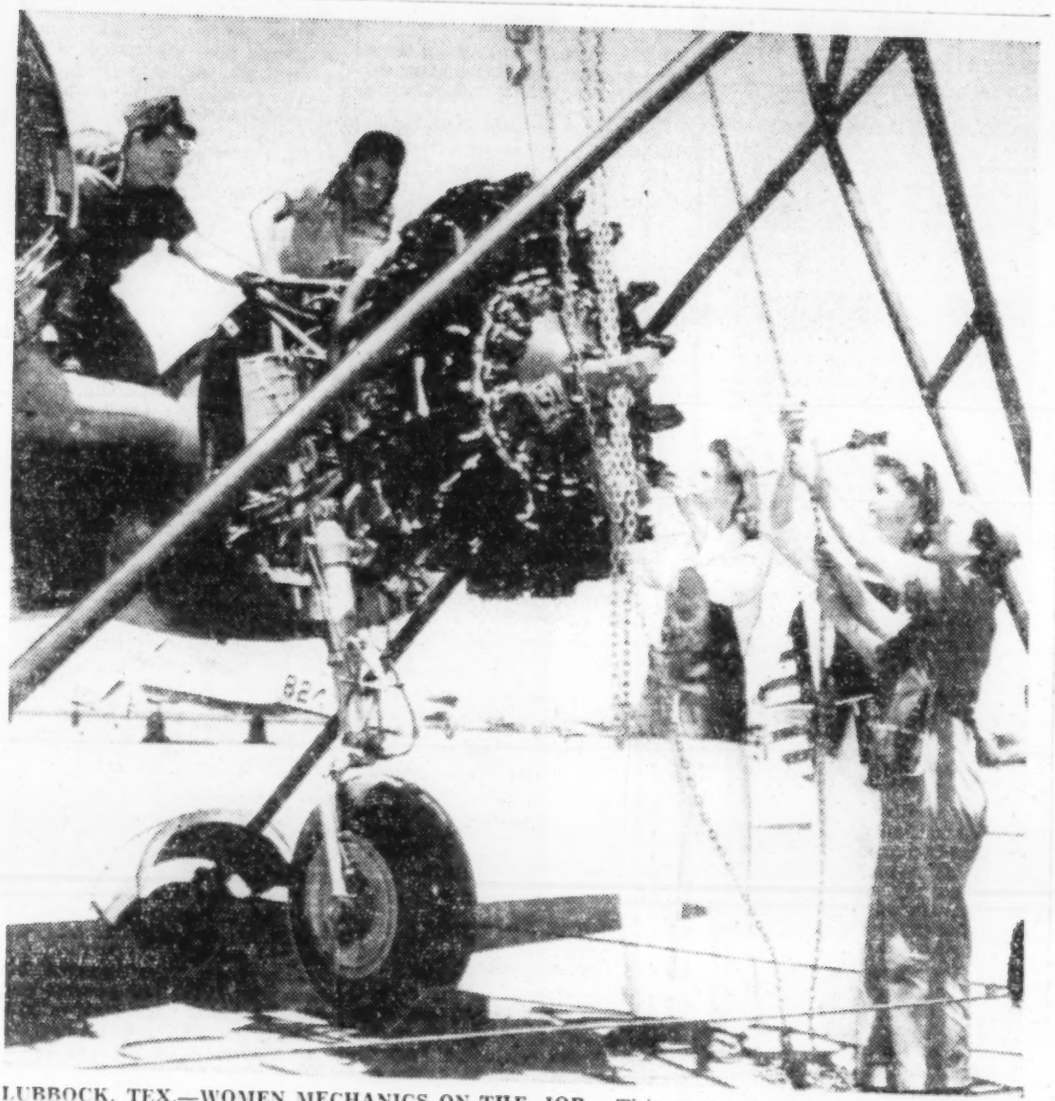
Upon graduation after four months of training that meets civil service requirements, there is no doubt as to their destination. They will be welcomed by the Rome Air Depot near by, which has a standing order for 2,500 mechanics' helpers at $1,620 a year. Those who prefer work at other airfields can probably write their own ticket.

The training program is under the direction of the Utica Board of Education, with Horace B. Griffiths, assistant superintendent of the Utica schools, in charge. The girls will work sixty hours a month at the NYA work center in Utica, commuting the seven miles between residence and center by bus.

It is expected that by Oct. 15, 200 girls will reside at the center. Although now limited to State residents, within two months girls from all over the country will be accepted.

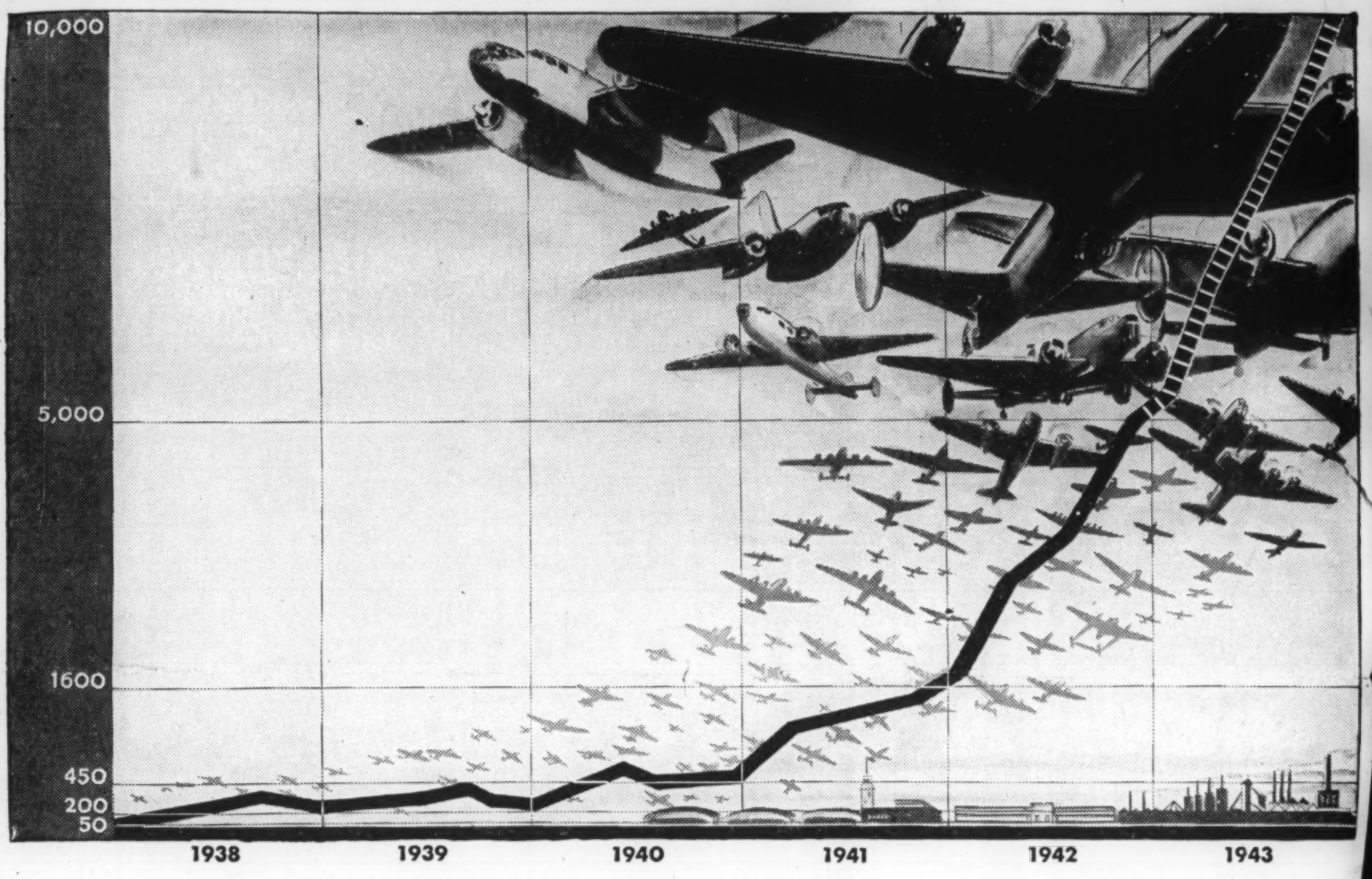
As training planes from the near-by Utica Municipal Airport hummed overhead, time out from instruction was taken by blue-coveralled figures.

Serious discussion was going on. The matter of the moment, however, was not machines but men.



LUBBOCK, TEX.—WOMEN MECHANICS ON THE JOB—This crew of women apprentice mechanics is swinging a 450-horsepower aircraft motor into place in an AT-9 training plane at the subdepot of the Air Force Flying School. Left to right: Mrs. Morine Tonnery, Mrs. Charlotte Martin, Miss Ozell McKay, Miss Eula Bea McMahon and Miss Hester Hulford. —A. P. Wirephoto.

Robinson



The Aviation Industry is doing its job...

A Year's Production a Week—Every Week

This is the third of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.

A MERE hundred planes a month in 1938; 200 in 1939; 450 in 1940; 1,600 in 1941, and today, as this is written, plane production goes on at a rate of 5,000 a month. A previous year's production now in one single week—every week.

So begins the story of the greatest industrial expansion in history; an industrial miracle that far surpasses anything our enemies ever have done or can do. Not only did we out-produce the Axis but the acceleration in our production during the past 12 months exceeded the greatest increase in German output during their forced-draft war preparation of 1939, when their production rose from 1,100 to 1,600 planes per month.

► The toughest part of our job was accomplished in 20 months. We boosted deliveries from 100 or so to 1,000 planes a week, passing the combined Axis powers. Today, Germany's curve is flattening; ours is climbing steeply. Lt. Gen. Henry H. Arnold, Chief of the Army Air Forces, assures us that Army contractors will produce not less than 148,000 planes in the remainder of 1942 and in 1943. During that same period Navy contractors will turn out at least 37,000 additional planes.

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To the amazement of the entire world these manufacturing miracles were accomplished without sacrificing the high standard of American aeronautical equipment. There has been some loose talk about the quality of our combat airplanes as compared with those of our allies and our enemies. Indisputable evidence of the superior stamina of our aircraft under fire is written between the lines of almost every war communique. Every battle record tells a story of heavy losses inflicted at small cost upon numerically superior enemy forces. The consistency of this performance on all the far-flung battlefronts constitutes the most eloquent testimony of the high calibre of our designs, our manufacturing methods and the skill and daring of our pilots.

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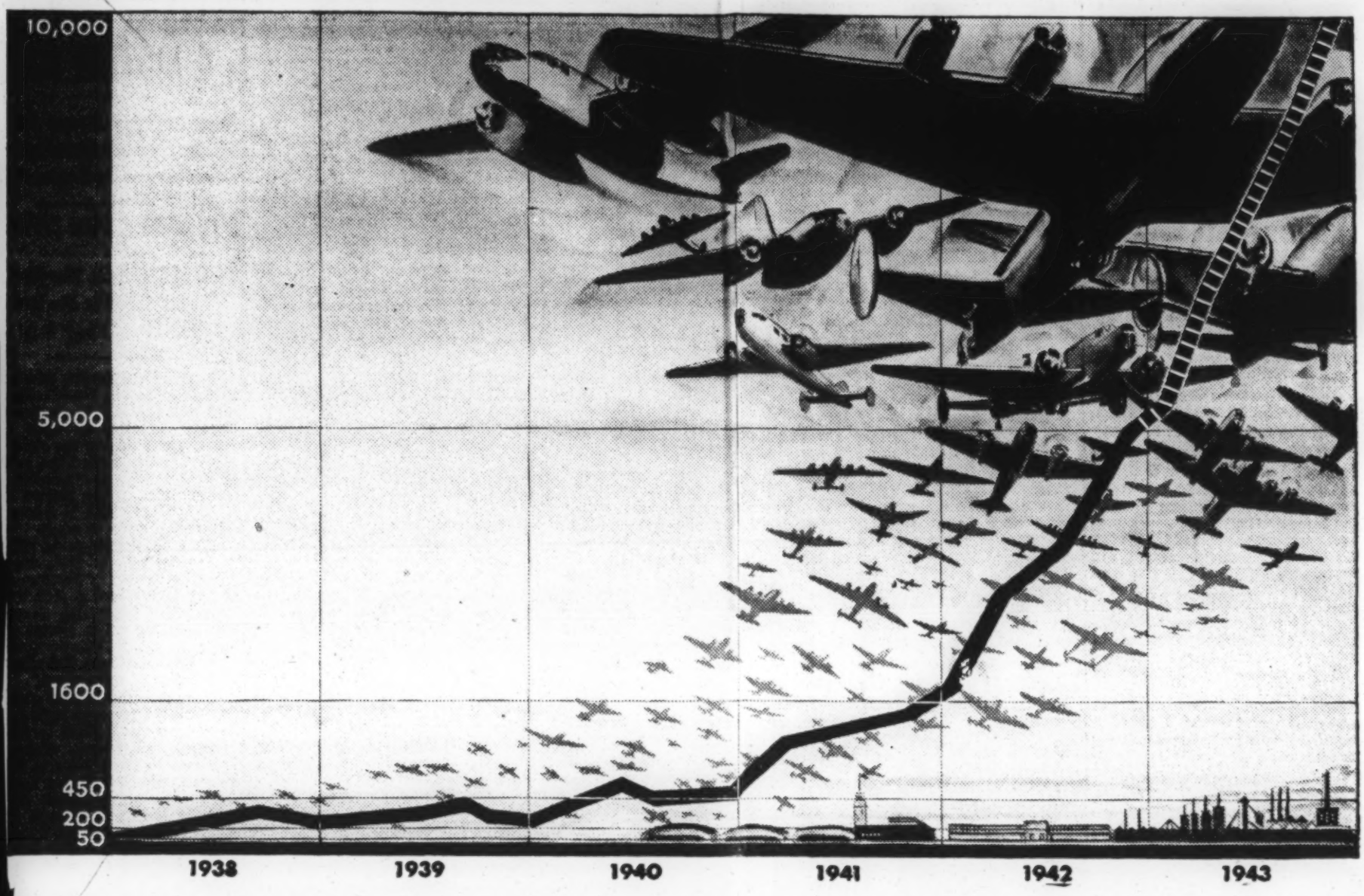
James H. McGraw, Jr.
President

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The Aviation Industry is doing its job...

A Year's Production a Week—Every Week

This is the third of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.

A MERE hundred planes a month in 1938; 200 in 1939; 450 in 1940; 1,600 in 1941, and today, as this is written, plane production goes on at a rate of 5,000 a month. A previous year's production now in one single week—every week.

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OCCUPATIONS

AIRCRAFT - 1943

U. S. Department of Labor
WOMEN'S BUREAU
Washington

Dykwander

Employment of Women in California Airplane Plants by Specified Months in 1943

Plant and Location	Number of women employed in -						
	June	July	August	Sept.	Oct.	Nov.	Dec.
				Total Women			
1. Consolidated-Vultee - Downey	2577	2683	2893				
2. Consolidated-Vultee - San Diego	17746	16485	16231				
3. Douglas - El Segundo	9055	9008	8526				
4. Douglas - Long Beach	21168	21744	21322				
5. Douglas - Santa Monica	19350	17768	18375				
6. Interstate - El Segundo	76	25	- - -				
7. Lockheed - Burbank	17838	17945	17734				
8. North American - Inglewood	9016	9096	8495				
9. Northrop - Hawthorne	2690	2867	2894				
10. Ryan - San Diego	1289	1416	1635				
11. Timm (Saticoy Plant) - Van Nuys	340	386	379				
12. Vega - Burbank	17046	16642	16128				
				Factory Women			
1. Consolidated-Vultee - Downey	2055	2162	2382				
2. Consolidated-Vultee - San Diego	13164	12101	11820				
3. Douglas - El Segundo	6856	6810	6474				
4. Douglas - Long Beach	16299	16263	16072				
5. Douglas - Santa Monica	13526	11616	11667				
6. Interstate - El Segundo	46	10	- - -				
7. Lockheed - Burbank	13437	13217	12981				
8. North American - Inglewood	6291	6202	5864				
9. Northrop - Hawthorne	1664	1708	1708				
10. Ryan - San Diego	987	1109	1471				
11. Timm (Saticoy Plant) - Van Nuys	191	230	244				
12. Vega - Burbank	12406	12012	11490				

U. S. Department of Labor
WOMEN'S BUREAU
Washington

EMPLOYMENT OF WOMEN IN AIRCRAFT INDUSTRY

Industry	August 1943			
	Total Women		Factory Women	
	Number	Percent	Number	Percent
Total	445,052	35.7	331,758	34.3
Airframes	344,974	39.0	253,482	38.4
Gliders	4,570	28.4	3,185	24.9
Engines	83,074	28.1	66,610	26.3
Propellers	12,434	24.2	8,481	20.4

	September 1943			
	Total Women		Factory Women	
	Number	Percent	Number	Percent
Total	462,426	36.1	345,279	34.8
Airframes	354,373	39.3	259,688	38.8
Gliders	4,386	28.5	3,022	25.0
Engines	90,803	29.4	73,778	27.7
Propellers	12,864	23.5	8,791	19.8

	October 1943			
	Total Women		Factory Women	
	Number	Percent	Number	Percent
Total	474,654	36.4	358,388	35.2
Airframes	358,457	39.5	265,346	39.1
Gliders	4,550	27.2	2,996	23.1
Engines	98,624	30.4	81,162	28.9
Propellers	13,023	23.8	8,890	20.0

	November 1943			
Total	479,550	36.2	361,124	35.1
Airframes	360,598	39.1	265,700	38.8
Gliders	4,224	26.3	2,723	22.0
Engines	102,039	30.7	84,088	29.2
Propellers	12,689	23.6	8,613	19.9

	December 1943 1/			
Total	476,354	35.9	356,166	34.8
Airframes	357,619	38.9	262,824	38.6
Gliders	4,038	24.9	2,644	20.7
Engines	100,658	30.2	81,952	28.7
Propellers	13,039	23.9	8,746	20.0

1/ Beginning Dec. 1943, Trainees included in report, so data not comparable to preceding months.

Employment of Women Factory Workers in the Aircraft Industry

	Airframes	Gliders	Engines	Propellers	Total factory workers
Dec. 1941	3,718	(not available)	584	0	4,302
Dec. 1942	147,627	--	18,921	2,421	168,969
March 1943	224,670	3,304	32,931	5,847	266,752
July "	251,993	3,076	59,144	8,131	322,344
Aug. "	253,482	3,185	66,610	8,481	331,758
Sept. "	259,688	3,022	73,778	8,791	345,279
Oct. "	265,346	2,990	81,162	8,890	358,388
Nov. "	265,700	2,723	84,088	8,613	
Dec. "	262,824	2,644	81,952	8,746	
April 1944	✓		×	×	
	nearly half a million				
	447,724				
	factory 325,000 airframes		engines		
	333,000	3500	100,000	15,000	
	230,000	2250	79,000	10,500	

Total employment of women in the aircraft industry, including clerical and maintenance workers as well as those on the production line, numbered about 475,000 in Oct.

DO NOT GIVE OUT BOTH Numbers & Percents

Nyswander

Employment of Women in the Aircraft Industry

Date	Airframes				Engines		Propellers	
	Total Women		Factory Women		Women Productive Workers		Women Productive Workers	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
1943								
Jan.	242,964	35.4	183,404	34.3	22,651	15.0	2,544	14.0
Feb.	266,309	36.9	199,997	36.0	27,729	18.9	5794	16.4
Mar.	300,357	37.3	224,670	36.8	37,931	19.2	5847	17.0
Apr.	317,268	38.0	237,061	37.3	43,470	20.1	6338	18.0
May	319,250	38.3	241,670	37.9	47,323	21.2	7,338	19.41
June	333,498	38.6	248,960	38.0	53,499	23.0	7767	19.9
July	339,681	38.6	251,993	37.9	59,144	24.7	8131	20.3
Aug.	344,974	39.0	253,482	37.4	66,610	26.3	8481	20.4
Sept.	354,373	39.3	259,677	38.1	73,777	27.7	8791	19.7
Oct.	358,457	39.5	265,346	39.1	81,162	28.9	8,290	20.0
Nov.	360,598	39.1	265,700	38.8	84,088	29.2	8613	19.9
1/ Dec.	358,619	38.9	262,824	38.6	81,952	28.7	8746	20.0

1/ Beginning Dec. 1943, trainees included in report, so data not comparable with preceding months.

Proportion of Factory Women	Number of plants reporting percent of women factory workers of all factory workers in: Airframe plants - 1943											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All plants	56	58	65	60	63							
Under 20 percent	5	5	8	4	5							
20 & " 25 "	11	13	10	11	9							
25 & " 30 "	9	5	7	9	12							
30 & " 35 "	15	16	12	10	8							
35 & " 40 "	5	5	11	11	14							
40 & " 45 "	4	4	2	7	6							
45 & " 50 "	4	4	5	6	6							
50 & " 55 "	3	3	4	2	3							
55 & " 60 "	-	-	1	-								

Confidential in this form 11-14-42

Productive Women Employees in Principal Aircraft Plants

Date	All Women	Productive women employees in plants manufacturing - Airframes: Number of women	Airframes: Percent 1/	Engines: Number of women	Engines: Percent 1/	Propellers: Number of women	Propellers: Percent 1/
1941							
December	4,302	3,718	2.0	584	1.0	0	
1942							
January	6,941	6,242	3.0	695	1.0	4	2/
February	11,215	10,099	4.0	1,100	2.0	16	2/
March	16,390	14,227	5.0	2,081	2.0	82	1.0
April	20,448	17.629	6.0	2,553	4.0	266	2.0
May	28,534	24,359	8.0	3,690	4.0	485	4.0
June	39,334	33,866	11.0	4,742	6.0	726	5.0
July	49,904	43,432	13.0	5,535	5.0	937	6.0
August	62,810	54,580	16.0	7,078	6.0	1,152	7.0
September	86,033	76,258	20.0	8,462	7.0	1,313	8.0
October	117,931	104,662	26.0	11,663	10.0	1,606	9.0
November	148,923	131,184	30.0	15,656	12.0	2,083	12.0
December	168,969	147,627	32.0	18,921	14.0	2421	13.0

1/ Percent of total productive workers.

2/ Less than 1 percent.

* 49,927 women in the 11 Calif. plants

Note: Number and percent must never be used together, as from these figures total employment in the aircraft industry could be computed.

Dec. - November - A special notice was received with the November report, prohibiting the transmission of data to unauthorized persons. So please use with discretion.

& California - Oct - 49,927 women
Nov. - 62,005 "
Dec. - 72,914 "

11-17-42

Don't give out whole table

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PERCENT WOMEN PRODUCTIVE WORKERS ARE OF TOTAL PRODUCTIVE WORKERS IN AIRFRAME PLANTS

Number of Plant	1941 Dec.	1942 Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total	1.8	2.7	3.9	5.0	6.0	8.0	11.0	13.0	16.0	20.0	26.0	30.0	32.0
California-Total	2.3	3.2	4.7	5.8	6.8	8.7	11.4	13.3	17.1	24.3	31.5	37.4	41.2
1	3.7	5.4	8.0	10.0	14.0	17.0	23.0	21.0	27.0	36.0	47.0	54.0	57.0
2	2.1	2.5	3.6	4.0	4.0	8.0	10.0	11.0	16.0	24.0	34.0	38.0	40.0
3	2.4	2.3	2.8	3.0	3.0	6.0	8.0	12.0	18.0	28.0	36.0	44.0	49.0
4	1.0	1.3	2.1	2.0	3.0	4.0	7.0	13.0	19.0	29.0	36.0	41.0	45.0
5	.1	.6	2.1	3.0	3.0	4.0	6.0	9.0	11.0	15.0	18.0	24.0	27.0
6	.1	.6	2.3	4.0	4.0	5.0	6.0	8.0	11.0	21.0	28.0	35.0	36.0
7	-	7.5	7.7	7.0	6.0	6.0	7.0	7.0	8.0	12.0	19.0	23.0	29.0
8	2.5	2.7	2.7	3.0	6.0	6.0	7.0	7.0	7.0	12.0	21.0	30.0	37.0
9								5.0	3.0	3.0	9.0	—	15.0
10	4.5	6.4	8.0	8.0	10.0	11.0	12.0	14.0	15.0	19.0	27.0	37.0	42.0
11	11.9	12.1	13.8	15.0	16.0	19.0	19.0	22.0	22.0	27.0	29.0	31.0	33.0
12						Interstate Fletchers	2.0	6.0			9.0	9.0	9.0
13			14.9	15.0	24.0	29.0	29.0	26.0	23.0	22.0	31.0	31.0	30.0
14	.1	.7	3.3	6.0	10.0	14.0	14.0	18.0	19.0	20.0	22.0	23.0	23.0
15	.7	.9	1.0	1.0	3.0	7.0	9.0	12.0	14.0	24.0	42.0	45.0	45.0
16	.2	.5	1.0	2.0	3.0	8.0	16.0	23.0	25.0	31.0	37.0	41.0	45.0
17	2.6	4.1	1.2	4.0	3.0	7.0	8.0	11.0	20.0	22.0	23.0	23.0	24.0
18	.1	.8	1.3	2.0	2.0	3.0	3.0	3.0	3.0	4.0	6.0	10.0	9.0
19	9.4	9.1	9.8	12.0	13.0	15.0	20.0	21.0	23.0	27.0	34.0	35.0	35.0
20					2.0	2.0	2.0	10.0	15.0	16.0	19.0	24.0	23.0
21								10.0	22.0				
22	.3	.3	.3		2.0	5.0	8.0	10.0	12.0	15.0	19.0	24.0	25.0
23	.1	3.9	7.8	10.0	12.0	12.0	15.0	16.0	12.0	15.0	16.0	18.0	22.0
24	.4	.9	1.2	2.0	3.0	3.0	4.0	5.0	9.0	13.0	17.0	19.0	25.0
25		20.7	23.8	24.0	24.0								
26								8.0	10.0		26.0	29.0	
27										13.0	23.0	28.0	28.0
28	2.4	3.0	9.1	12.0	12.0	12.0	12.0	15.0	17.0	21.0	24.0	24.0	25.0
29							9.0	13.0					26.0
30								13.0					32.0
31					11.0	10.0	11.0	8.0		14.0	17.0	20.0	28.0
32				1.0	2.0	3.0	5.0	8.0	10.0	13.0	13.0	13.0	13.0
33	.8	.8	.7	1.0	2.0	2.0					18.0		23.0
34								[redacted]				44.0	48.0
35	.7	1.7	3.8	6.0	8.0	9.0	11.0	13.0	15.0	18.0	23.0	27.0	24.0
36								8.0	21.0	15.0	17.0	21.0	22.0
37	2.5	4.0	13.0	10.0	14.0	27.0	25.0	30.0	29.0	36.0	37.0	42.0	38.0
38				17.0		20.0	20.0	21.0	21.0	24.0	24.0	27.0	27.0
39	5.7	5.3	8.0	8.0	8.0	10.0	14.0	15.0	19.0	20.0	21.0	24.0	26.0
40			3.0	4.0	9.0	10.0	9.0	8.0	19.0	23.0	27.0	26.0	29.0
41			4.1	9.0	13.0	14.0	16.0	20.0	19.0	19.0	24.0	27.0	27.0
42		.1	.1				1.0	1.0	2.0	6.0	9.0	14.0	17.0
43		2.8	6.3	11.0	8.0	9.0	6.0						
44			15.4			26.0	29.0	29.0	29.0	28.0	35.0	35.0	36.0
45	2.3	2.7	4.1	8.0	11.0	11.0	14.0	17.0	17.0	20.0	28.0	28.0	21.0
46	15.0	15.0	15.1	21.0	20.0	19.0	20.0	22.0	23.0	24.0	37.0 24.0	39.0 24.0	39.0 24.0
47								20.0			16.0	20.0	31.0
48							5.0	6.0					

Source - Material Command, Army Air Forces

50

29.0

U. S. Department of Labor
WOMEN'S BUREAU
Washington, D. C.

From: Times Herald
~~Friday~~, 1943 (Nov 26 ?)
Washington, D. C.

FEMININE TOUCH TURNS OUT BULLET RESISTANT GLASS

Women in White Fix the "Sandwich" For U. S. Warplanes
By Corrinne Hardesty

TOLEDO, Ohio, Nov. 26 (U.P.). In a dust-proof, air-conditioned room as spic and span as the tidiest kitchen in the land, women in fresh, starched white uniforms worked today putting together the three layers of glass "sandwiches."

When finished they constitute bullet-resistant glass used as transparent armor plate in bombers and pursuit ships. The peculiar construction of the "sandwiches" is extra protection for Allied planes.

Better Than Steel

Government tests show that the "sandwich" is better bullet protection, under many flying conditions, than steel armor, according to officials of the Libbey-Owens-Ford Glass Co., where it is made.

Carefully trained women workers, who built up their skill over years of peacetime work on flat safety glass for pleasure cars, quickly learned the additional technique of making the bent armor plate now used on warships, tanks and mosquito boats as well as on bombers and pursuit ships.

It's Smooth Work

Tall, thin Mrs. Mildred Gregor, 33, whose husband is in the Navy, carefully placed a layer of plastic, the "sandwich filling," over a sheet of the silky plastic and waited for the next piece of glass to come in front of her on the moving assembly line.

The plastic-covered glass moved on to the next operator who deftly put the top on the sandwich--another sheet of plate glass. An inspector made sure the operations were flawless before the moving belt carried the three layers into a huge oven.

Few Rejections

Because of the "sandwich-makers'" long experience in glass work, few of the sandwiches, some of them thin, some of them very thick, have to be taken off the line.

All the women working on the operations have been members of America's industrial army for 10 or 12 years. For them conversion to defense work was just a matter of a little more skill.

Cont'd

"It did not take us long to learn to work on the curved glass needed for the bombers," said Anne Ish, 28, from nearby Rossford, who has worked in the "sandwich shop" for nine years. "It slowed us down a bit at first, But we caught on."

Dish for the Nazis

Before the plastic reaches the lamination experts it is washed in large vats by other white-clad, white-gloved women. From the vats it is festooned on rollers where it looks like great sheets of noodle dough hung out to dry.

"It will make a tasty dish for a Nazi fighter when he tries to put his bullets through it," said an inspector as she examined the sheets for flaws.

Buffalo Evening News, Aug. 30,'43

HOBBY PAYS DIVIDENDS IN WAR WORK
Miss Chappelle Is Photographer In Airplane Plant

Ten years ago a little girl with blond hair and sharp green inquisitive eyes clutched her box camera and in the "sister-aping-older brother" fashion tagged after her "hero" as he took pictures with a "big camera."

Today that same girl, Miss Elizabeth D. Chappelle, daughter of Dr. and Mrs. Walter F. Chappelle, a little taller and with soft wavy hair and the same sharp, true eyes, carries nearly eight pounds of camera as she uses a speed-graphic in her work in the Elmwood plant of the Bell Aircraft Corporation; the older brother, First Lieut. Walter F. Chappelle Jr., gained plenty of experience as a newspaper photographer, also a western representative of a Rochester camera company and now is serving his country in the Signal Photographic Corps, Washington.

MAJORS IN LANGUAGES

There have been a great many changes in those ten years for the little girl. She completed her academic schooling, was graduated by the Buffalo Seminary and entered Allegheny College where she majored in modern languages with the aim of either being an interpreter, translator or teacher of languages.

All the time the influence of the little box camera and the older brother were in the background. In rapid succession more advanced cameras-the Kodak Bantam Special, then the Rolleiflex, a motion picture camera, next the Leica 35 MM-were mastered by the teenage girl until photography was her favorite hobby.

HOME LIKE FAMILY STUDIO

Her environment, with her natural aptitude, rapidly developed the hobby as everyone else in the Chappelle family soon became interested in taking, developing, printing and studying pictures also. When Miss Chappelle completed her college education she felt that she should get into war work instead of teaching languages.

After all, her photographer brother is in Washington; another brother, Maurice G., is in a war plant; another brother, Lieut. (jg) Robert N. Chappelle, USNR, is stationed in Washington; and a sister, Mrs. Jay Spafford Tracy Jr., is with her husband, Corporal Tracy, who is stationed in Ft. Monmouth, N.J.; and, last but not least Miss Chappelle's fiance, Mr. Edson Van der Meid of Livonia, has had 65 hours flying to his credit and is in the enlisted army reserves awaiting call.

PATRIOTIC INTEREST

Two months after college graduation, a little more than a year ago, Miss Chappelle started work in the purchasing department of Bell. But after six months, remembering her hobby, and, with the thought of developing it into a job that "would help the war effort as well as be suitable for carrying on after the war and marriage," she transferred to the still photography department.

For a while she was in the dark room, developing, contact printing and enlarging pictures. Then time was spent taking pictures for the plant magazines. Now her major work is using the Leica camera in following through an assembly of various parts of an airplane for the visual training department of the plant.

But her work is still Miss Chappelle's hobby-for after-work hours are often spent in experimenting in color pictures. And of the future - it is a natural. She hopes the war will end soon, then marriage... and she can always use her "war experience" in peace times, taking candid pictures of babies and their mothers.

Air Service Command Plans to Use 80 Pct. Women Employes

Medical Facts Gained Seen Important Aids To Post-War Industry

By HOWARD W. BLAKESLEE,
Associated Press Science Editor.

PATTERSON FIELD, Ohio., March 5.—The world's largest industrial organization, now completing its headquarters here, plans to use women for 80 per cent of its working force.

The organization is the United States Army Air Service Command. It has several major depots in the United States and a large number of subdepots. The work is overhauling planes, fitting some for special jobs in deserts, others for the Arctic, and making modifications for missions like the Tokio raid. Aircraft equipment is modified. Most of the job is military secrets.

But there is one angle, industrial medicine, which is not a secret, and which is likely to have a long-lasting effect on American life. Probably more than any other organization, this medical setup will learn what to do about the health of women in industry.

Subject Largely New.

The feminine subject is largely new: First, in jobs which women never did before in large numbers; second, in mass psychology of feminine workers; third, in health problems peculiar to housewives, mothers and prospective mothers, who must also work in factories. If history can be relied upon for forecasts, women will continue after the war in large numbers in most lines which take them in during the emergency. Furthermore, here, as most everywhere, the reports are that women do the jobs as well as or better than the men.

The percentage of women in the Air Service Command is already high, but not yet up to the 80 per cent mark. The aim is to release men for military work. In this area, where heads of families have gone to war, the command has issued a brochure to husbands suggesting that they invite their wives to enter the command's employment.

The health experience of this huge military industry is sure to furnish useful information on both men and women for the benefit of private industry and of the international unions which are actively at work on employe health.

Covers Three Fields.

The health work covers three main fields. One is fitting workers into jobs they can do without too much risk. Two is guarding their health from industrial hazards. Three is teaching them the fundamentals of sanitation and food handling, which prevents epidemics.

Science is creating new compounds so rapidly that medicines is continually meeting new sources of illness resulting from workers associating with the substances. The medical organization here lists the fumes of 62 chemical and 17 dusts which are hazardous. Really the number of dangerous fumes is much larger, due to combination of some of the 63 with still other chemicals.

The military doctors have to set up methods for quickly spotting the one chemical, dust or other cause among possibly 200. Great private industries, the Public Health Service and medical science all have been at work on these problems for years. They started when doctors puzzled as to the golden colors of the skins of gold-beaters.

Principles Applied From Start.

The business of fitting men and women into the right jobs is a much newer industrial and medical venture. The Air Service Command is the first huge organization which has had the chance of applying these principles from the very start.

The sanitation program here might surprise a college graduate. It deals with flies, cockroaches, rats, mice, dishwashing, food handling, spread of bacterial infections, tuberculosis, personal cleanliness and venereal diseases.

Not a word is new. Many families have practiced all these health rules for generations.

But to any cross-section of the American population, such as the employes of the world's largest industrial organization, the practices contain many new pointers. These practices, if followed generally, would sharply reduce most of the epidemics common in the United States.

Aug. 28, 1942

Beech Aircraft Reports Women's Work 'All Right'

Wash Post

New York, Aug. 27 (AP).—The girls are doing all right at the Beech Aircraft Corporation factory, Personnel Director Warren E. Blazier said today in a statement intended to meet recent criticism of women workers.

"Beechcrafters are too busy to care if the worker next to them is a man or a woman," Blazier asserted.

"Regardless of sex, our people realize the importance of their production to help win the war. Women and men alike in the Beech factory are doing a great job."

Blazier's announcement added that the success of the women workers might be due in part to the fact one of the company's principal executives is a woman—Secretary-treasurer Olive Ann Beech.

She takes the view that a woman can do practically any job that a man can do.

Blazier said this is reflected in a policy which permits women at Beech Aircraft to get equal pay for doing equal work with men. They now number 20 per cent of the pay roll.

He explained that company rules and standards of dress eliminated in advance some problems which might have arisen. To avoid regimentation, however, a choice of color and style is permitted.

WASHINGTON EVENING STAR

MARCH 5 - 1943

ADVANCE RELEASE

ADVANCE RELEASE: For MONDAY AFTERNOON Papers, May 3, 1943
Greenblatt -- WMC 2036

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

PM-4374

Production of aircraft is rapidly becoming a "woman's industry", Chairman Paul V. McNutt of the War Manpower Commission said today, explaining that 70 to 80 per cent of the workers now being hired by many aircraft companies are women.

Employment figures made available by the aircraft industry show, he said, that about a third of all the workers in aircraft are women and that this proportion is expected to rise to at least 50 per cent by the end of the year.

This, he pointed out, represents a phenomenal increase over the situation before Pearl Harbor when only 2 per cent of the workers in the industry were women.

West Coast assembly plants have taken the lead in conversion of their plants from manpower to womanpower. The proportion of women workers runs about 45 per cent in Western plants, about 33 percent in the Middle West, and about 26 per cent along the Eastern Seaboard.

Information gathered by the War Manpower Commission indicates that women are employed in practically all branches of aircraft manufacture but predominate in sub-assembly and fabric covering operations. Although engine manufacture requires greater skill and experience, increasing numbers of women are also to be found in these departments.

A great many of the women employed in aircraft manufacture are completely new to industry, Mr. McNutt said. For example, some firms have attempted to relieve housing and transportation shortages in their areas by hiring the wives and relatives of men already on the payroll even though these women have had no previous working experience.

"Aircraft management has done an outstanding job in utilizing effectively this new and inexperienced source of labor," Mr. McNutt said. "Many firms have abandoned traditional hiring attitudes and made every effort to adapt the job to the worker instead of clinging to the idea of finding a worker who fitted the job. In this connection, aircraft firms have redesigned tools and machinery to fit women's slighter strength and stature, have installed lifting devices wherever possible and have broken down complicated jobs into their simpler component parts."

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X-14627

Dispatch, Columbus, Ohio
April 9, 1943.

CUETISS-WRIGHT FINDS WOMEN ARE CAPABLE

Officials of the local Curtiss- right plant extolled Friday their contribution in the matter of employment of women in war plants.

They cited impressive figures to prove that Curtiss-Wright specifications for women employees are flexible and that only a few of the physically unfit are discouraged by the lack of job openings in the plant that builds fighting planes for America's fighting men.

A trip through the plant corroborates their claim that old or young, thin or fat, women make up at least one-third of the total of Curtiss-Wright employes.

"If women are in good physical condition, those in the age group between 35 and 45 are just as good workers as younger women," Personnel Manager Harry Gregg pointed out. "In some cases, she is even better if she has a family because her children are older and she doesn't worry as much."

'Heavies' Fit Some Jobs

Some jobs, he went on, particularly in the machine shop, are more suited to the heavier woman than the one weighing around 100 pounds. This type also does a good job bench riveting, he added.

Referring to a plea made Wednesday by Wade Hammond, Columbus area director for the War Manpower Commission, that local war plants relax their specifications and prejudices against women employees if they hope to solve the manpower problem, James Geary, Curtiss-Wright employment manager said:

"We'll take them as they come - men or women. We're not demanding anything because we realize we must draw from our source of supply as it exists today, not as it was a year ago or before the war."

Employing More Women

Officials estimated that slightly more than one-third of the total of Curtiss-Wright employees are women. This percentage has picked up considerably during the past year and is growing constantly.

Of the total of 10,295 graduates of the down-town Curtiss-Wright training center, 4141 are women, according to Raymond Watkins, director. At present 393 9f 498 persons now enrolled at the training center are women, in addition to many others known as "observation trainnes" who learn by watching at the plant.

As further proof of the important role women are filling at the Curtiss-Wright plant, officials point with pride to their champion riveting team of four women from the fuselage department whose record is 400 rivets in slightly less than eight minutes. There's a one-man riveting team, too, Nora Jane Yost of the panel department who bucks her own rivets as she drives them.

When Curtiss-Wright workers selected the plant's "Home Front Heroine" they didn't choose a young glamour girl but a 39-year old wife and mother whose husband and son are in the armed service.

MCR

your copy

WOMEN PROVE THEIR WORTH

By

Harry Huck

(SOURCE: "Victory in 1943" -- Aero Parts, Wichita, Kansas)

January 2, 1942, marked an important date in Aero Parts history. 11 girls started training in Aero Parts school. It was more or less an experiment to see if women could do a man's job in sheet metal and riveting for aircraft work.

Just a few days before these girls went into training, the Personnel Director came to me and told me I was to train eleven women for aircraft work. At the moment I thought, "What a headache!" but I told him I would try anything once. On the morning of January 2, 1942, these girls came to school.

The first day was spent in the classroom (drafting room). I showed the girls the different tools used in sheet metal. I did not tell them the name of each tool, but asked them to tell me what they were. They knew the names of about 50 percent of them and their uses. They knew what an electric drill was, but never had seen or heard of an airhammer or rivet gun. They were to be taught sheet metal, layout, drafting and shop work. They were not much interested in layout and drafting, but they wanted to get out in the shop and use the tools I had shown them.

The second day was spent in the shop. I showed them how to use the tools I had shown them the first day. This is the day they started to ask questions and did they ask them! "Why do you use a pencil instead of a scribe?" "Do you use a left-handed Dutchman in your left hand?" "Why do you burr drilled holes?" "What is alclad?" and a hundred others.

The first step was to drill holes. There were some very sorry looking ones. They were supposed to be 3/32 holes, but you could stick your finger through them. So-called bear tracks on the material looked like ant tracks to and from their mound. A few days of practice stopped all of this.

The next step was to rivet. You should have seen some of the rivets! They were murdered! They even drove the rivets clear through the material. After adjusting the air valve on air guns and a week of practice, these girls were beginning to accomplish something. After three weeks of training, their work was amazing. Some of their work was superior to some of the men's.

After weeks of training two girls went to work in the Cowling Department. The rest of the girls soon followed them. One of the eleven has been promoted to Crew Chief of a department, and is doing a remarkable job.

THE GENTLER SEX

THE OTHER SIDE OF THE PICTURE

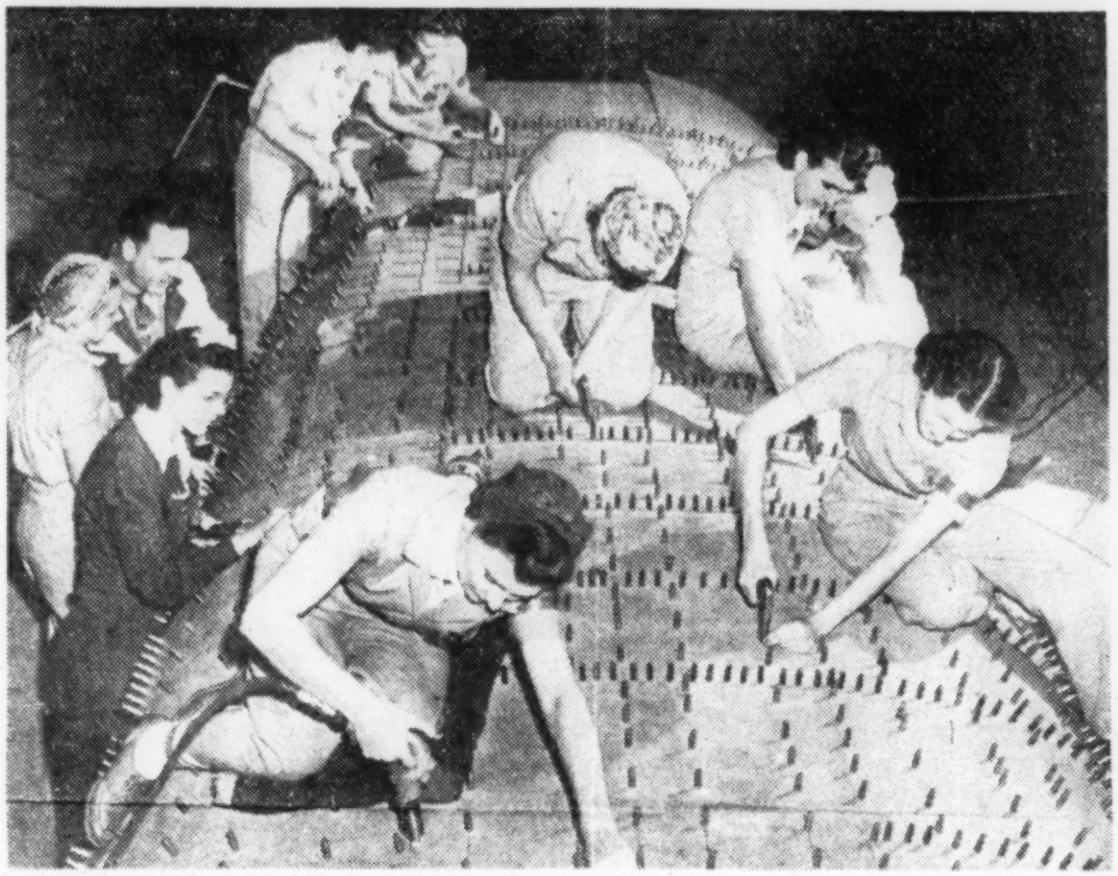
By Malvina Lindsay

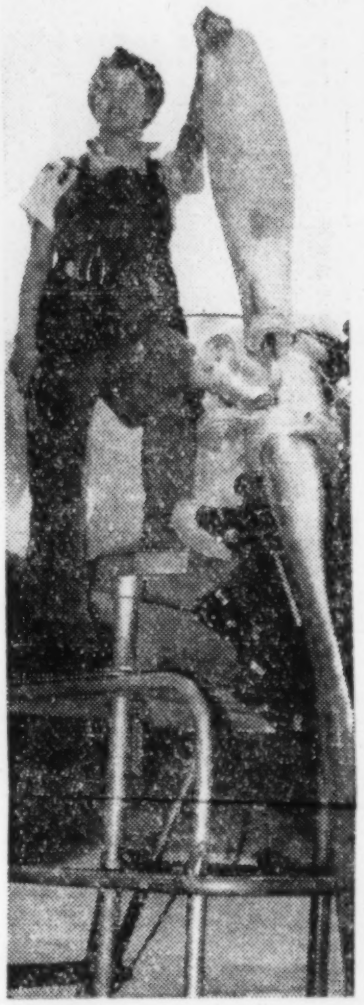
Women storming the shoe stores to accumulate footwear they could do without . . . using gasoline to drive to parties . . . hoarding merchandise and patronizing black markets . . . whining about food rations, deliveries and the upset of their orderly little lives.

Not a pleasant picture. But wait! Here is another one.

Women working in noisy, steaming hot machine shops making shell cases . . . women gun crews testing guns and ammunition on remote and lonely firing ranges in cold, snow and all sorts of weather . . . women laboriously handling heavy tarpaulin, cutting and sewing it, putting metal rings in it to make Army tents . . . women cutting their hands, grinding dirt into them and breaking their fingernails in the making of hemp rope ladders . . . women loading and checking materials in noisy, open, unheated warehouses . . . women doing routine clerical work in areas and travelling on an average of 60 miles a day (some 100 miles) to and from their jobs . . . women sticking uncomplainingly to these hard, dirty, inglorious tasks eight hours a day, six days a week and devoting their nights and their Sundays to cooking, washing and doing the housework that many of their unemployed sisters today find "so difficult without a maid."

This second picture, based on the arduous and difficult work of women in the civilian service of the War Department has been brought to Washington by Mrs. Warwick B. Hobart, adviser on employment of women to the director of the civilian personnel of the Office of the Secretary of War. Since her appointment about six months ago, Mrs. Hobart has been making a tour of inspection of the ordnance, chemical, aircraft and other War Department plants in which women are employed.







Mrs. Warwick B. Hobart, adviser on the employment of women to the director of civilian personnel and training, Office of the Secretary of War

As former general secretary of the National Consumers League, Mrs. Hobart has long been familiar with the problems of women in industry. What she has seen among the women civilian employes of the War Department has given her new enthusiasm and hope for American women—especially those who have had intimate acquaintance with hard work.

"The women in the War Department plants are mostly those who had already learned the discipline of work, either through their homes or through factories and shops," said Mrs. Hobart. "They are now doing a magnificent job. But we have about reached the bottom on this supply of feminine labor. Now the woman of comparative leisure faces her testing. Can she, will she, take hold and do her part industrially? There are both clean and dirty jobs for women to do in the winning of this war. What is needed is the woman who will say 'I will do whatever job I can in my community within the limits of my ability.'"

Why were the women in the war plants doing their hard, dirty jobs so faithfully? Seeking an answer Mrs. Hobart as she went through the plants repeatedly asked, "Why are you here?" She had expected to hear the familiar retort, "I need the money." But instead nearly every woman replied, "My husband's in service," or "My boy friend went to war."

Over and over she was told by plant foremen that the woman with a man in service did the best work. In fact, in one plant the women in the inspection department, nearly all of whom had husbands overseas, were so unduly particular that they held up production.

Mrs. Hobart also found in many places praise for the older workers. "In the grinding of lenses for gun sights the older women have been a signal success," she said. "In this work, formerly done by men, they have raised the quality of production and increased the output."

Among other especially valuable workers have been the rugged young women from the mountain districts of Kentucky, Tennessee and North Carolina, who, familiar with firearms and inured to weather have formed the indomitable proof-firing crews to test guns and ammunition.

After the war, what of all these women? "Many will go home of course—if they have homes to go to," predicts Mrs. Hobart. "But we must face the fact that many women will have to keep on working. Moreover, in some industries women are turning out to be such superior workers that they will continue to dominate in those fields. For instance, aircraft assembly is becoming a woman's industry. Other industries will develop similarly. Women who need to stay on will find many new opportunities."

NY Times
2/23/43

THE NE

GIRL WAR WORKER GETS IDEA AWARD

Miss Graganiello of R.C.A. Plant at Harrison, N. J., Speeded Up Tube Mounting

SEVEN OTHERS HONORED

New Jersey Employes Credited With Saving Man Hours and War Material

WASHINGTON, Feb. 22 (AP)—Eight New Jersey war workers who dug into their minds for ideas on saving man-hours and critical materials received today WPB awards of merit.

Among them was Miss Nevy Graganiello, employe at the Harrison plant of the RCA Victor division of the Radio Corporation of America, second woman to win a certificate of individual production merit. Her suggestion so improved the mounting of power tubes that 1,000 assemblies can be completed in forty operator hours, compared with eighty-three operator hours formerly required.

Other New Jersey awards included the following:

Edward W. Steup, 28, lathe set-up man at American Type Founders, Inc., Elizabeth, suggested a new method of forming recess in a gun part, saving nearly twenty minutes on each piece, giving superior finished quality and eliminating breakage of tool bits.

James J. McKelvie, head of the glass stem department at RCA Harrison plant. Suggestion pertained to substitution of nichrome for stainless steel in manufacture of transformer terminal assemblies.

Joseph Dolinsky, also employed in RCA Harrison plant, suggested change in certain piercing operations in manufacture of radio equipment, saving 2,600 man-hours annually.

Hans Weber, mechanic at RCA Harrison plant, conserving materials and reducing operating time 50 per cent on automatic power press.

B. W. Kinyon, supervisor at RCA Harrison plant, saving 3,000 hours of direct labor annually by new process in making power tubes.

Miss Grace E. Lynch, tube mounter at RCA Harrison plant, saving critical materials and 400 man-hours annually in manufacture of power tubes.

Joseph Loeb, working group leader at RCA's Camden plant, cutting inspection time of wires, micrometers and other parts by two-thirds and increasing their accuracy.

Only 232 workers have been recognized since awards were started last November.

DIVISION OF
PRESS INTELLIGENCE
1526 14th St., N. W.

NO.

SYMBOL L

Republic (ID)
Phoenix, Ariz.

APR 22 1943

DATE

p.

Woman Receive. Award At Plant

TUCSON, Apr. 21—One of the few women to receive an award under the employee-suggestion system in the Consolidated Vultee Aircraft Corporation plant here, Mrs. Lucille B. Hussman of Tucson was awarded $35 for a suggestion which eliminated additional handling of stowed articles on B-24 Liberators.

Officials estimate her suggestion will save approximately 2,880 man hours per year.

Leonard H. Kelley was awarded $40 for devising a new method of draining gasoline from planes before they are modified, and $10 awards were made to Burton Shays for a device for moving heavy articles, and to L. A. Denoyer for a change in engine covers which will give greater protection to superchargers.

DIVISION OF
PRESS INTELLIGENCE
1526-14th St., N. W.

NO.

SYMBOL L

Journal
Milwaukee, Wisc.

DATE APR 22 1943

p.

Ma and the Doughnuts

The story of Mrs. Palmer, working at the Packard Co., where they make airplane engines, illustrates something as old as our history and probably as all history. It is the putting together of two seemingly unrelated things. Many small rubber rings called spacers are used in the Rolls-Royce motor. These, still hot, were piled in boxes; many stuck together and had to be scrapped. Mrs. Palmer "remembered one day that at home we put hot doughnuts in flour so they wouldn't stick. I used pumice powder on the spacers instead of flour. Now we don't scrap any."

That's a modern version, if you like, of the old story: "Pa got out his tools and fussed at it for an hour, then ma fixed it with a hairpin." Mrs. Palmer of course is exceptional, since in seven months she has produced nine valuable suggestions, increasing production as much as 100% on some operations. But the phenomenon isn't new.

Legend attributes the success of the sewing machine to the suggestion of a woman that the eye be put at the point. One gets a rather awesome idea of the potentialities of American invention when a woman who has worked only in restaurants and confectionery stores draws on experience to improve machine production. The war goes forward when we draw on such resources.

3 Women Serve as Test Pilots For Navy Hellcats and Avengers

Win Official 'Well Done' From Grumman for Ability to Master Difficult Task— Light-Hearted as They Go About Job

1943

Special to THE NEW YORK TIMES.

BETHPAGE, L. I., Nov. 16—Three young women are diving over Long Island these days in first flight tests of the Navy's speedy Hellcats and Avengers. Part of their job also has been to try out feminine ability in this spectacular and strenuous field of flying—a test that has won them an official "well done" from Grumman Aircraft Engineering Corporation, makers of the planes.

To demonstrate how it is done, Grumman's three newest test pilots put on an airshow for newsmen and women over the airfield near here. In the cockpits were Mrs. Barbara Jayne, 29, wife of a Navy lieutenant who flies these same Grumman fighters; Elizabeth H. Hooker, 26, of Baltimore, and Mrs. Teddy Kenyon, who rates "veteran" for fourteen years of flying.

If any of them shared official worries over their new assignments, she kept it well concealed. It was a light-hearted company that filed into the wardoom in the operations building, to don coveralls, leather jackets and helmets against the cold. Strapped over shoulders were parachutes and radio harness—bulky outfits that left them indistinguishable from other test pilots.

Make Many Performance Checks

With them on first test flights, they carry a lengthy list of things to be checked—a dozen or more instruments, power ratings, balance and other phases of performance. Right off the production line, the ships have never flown before, and the reports brought back determine what adjustments are needed before they leave for the fighting zones.

Out on the field, flight equipment girls motion the plane, its wings folded back, into the clear. Wings are spread for flight, "clear for take-off" sounds through the earphones, and the test begins.

Thrilling, yes, the pilots admit—but lots of work, too. Miss Hooker, from the class of 1939 at Smith College, likes the Hellcat best of all the planes she has flown since she soloed at 15. "It's fun to have lots of power out in front of you," was her laconic summing up. In Navy approved language, the Hellcat is one of the fastest fighters in the sky today, in the 400-miles-an-hour class, and with a ceiling of better than 35,000 feet.

First flights run about an hour, and include dives from 9,000 feet, which often end in a brief blackout. Miss Hooker, on her tests, often adds a slow or snap roll, because, "You're not a super-colossal pilot unless you can do that."

Taught Army, Navy Pilots

Mrs. Jayne, who qualified a month ago to do first flights, is a product of the Ryan School of Aeronautics at San Diego, Calif. Later she became the first woman instructor in the Civilian Pilots Training Program at Troy, where she taught men who are now Army and Navy pilots. Before she took up the Hellcat, which she has dubbed the "pilot's delight," she flew courier flights for Grumman, picking up parts at distant plants that are wanted in a hurry. In the 2,300 flying hours she has logged, she has been too busy to pick up any of the superstitions that surround aviation. "I haven't had any time to learn them," she said, "and besides it's too much trouble to remember all those things."

A bigger and heavier plane, the torpedo-carrying Avenger, was flown by Mrs. Kenyon, whose outfit has individual touches—a red peaked cap over her blond shoulder bob, and red slippers. Teddy has also been making courier flights for Grumman for the last year. Her husband, who taught her to fly, is flight research engineer for the same company.

"When he's working at home in Huntington, I go over and zoom him on these flights," she said. With her goes her mascot—a picture of a white rabbit sitting under a holly branch, "with the sweetest expression, it melts you down."

After work, Teddy sits home by the fire and reads stories. One time holder of the Women's Acrobatic Championship of the United States, Teddy restricts her flying these days to Avengers and Hellcats, but has her eye on a little amphibian she means to buy after the war.

OCCUPATIONS

AIRCRAFT - 1944

awards

THE LADIES SUGGEST

Source: The Victory Fleet; Vol. III, No. 7; August 14, 1944; p. 4.

Among the thousands of helpful suggestions made by workers in Maritime yards and plants, only a handful have come from women. That women have a real contribution to make in suggesting improved ways of doing a job is shown by the experience of an RCA Victor plant. Two recent award winners there teamed up with a suggestion to save 5,000 man-hours with a jig used in assembling tube mounts. A saving of 4,800 hours a year will result from another's suggestion to use a fine welder on filaments.

Believing that little suggestions mount up to worthwhile savings, RCA directed a recent suggestion drive at the women workers. A 12-page booklet explaining the suggestion system was heavily illustrated with pictures and biographies of women award winners, and the women were told how their ideas could be a real help to their men in the armed forces.

Seam Aligner - In the shipyards as well as in the plants women are thinking on the job. Mrs. Geneva M. Spence, ship-fitter helper, was the first California SB woman to win honorable mention in a suggestion contest. Her idea was a clamping device for seam alignment, consisting of two angle clips and two wedges. In the niche of one angle clip a wedge, cut square at the head, is securely welded about 1/3 of the distance from the pointed end.

This clip and wedge is welded to one plate. Another clip is welded to the opposite plate in such a position that the head of the wedge on the other clip extends through the opening. A second wedge is driven through between the head of the stationary wedge and the upright section of the clip, pulling the plates tight.

By using wedges the pull is on the bottom of the clip, causing plates to pull flat and to come into place flat. The Commission has approved this device for distribution to other yards.

Holster - Mrs. H. Wilde, an asbestos worker at Globe SB Corp., got $10 for suggesting a rubber holster to carry pipe-sewing materials to insure against injury from sharp edges.

Shell Plate Jig - Mrs. Rose Johnson, a welder in the Vancouver yard of Kaiser Co., won $25 for a jig for laying shell plates. It supports the curved front portion of the shell plates in proper position until welded and eliminates the former slow, cumbersome timbers and blocking method. This jig saves about 60 man-hours a month.

Mrs. Johnson has never been late nor absent since she began work.

Cable Bench - Mrs. Lula Merchant, an apprentice electrician in the J. A. Jones Co.'s Wainwright yard, received a $100 War Bond for a device which makes it relatively easy for her to do the work formerly requiring the full time of two people.

Mrs. Merchant's job is to repair or make cables for welders and tackers, and to make cable connections. To cut down operation and save expense, Mrs. Merchant devised and developed an all-purpose portable cable bench, weighing about 15 pounds and equipped to handle six different operations.

More Needed - Maritime Commissioner John W. Carmody, in a letter to the General Manager of the yard commending Mrs. Merchant, wrote:

"We need more Mrs. Merchants and more supervisors who are intelligent enough to inspire the release of creative ability that all workers possess but which is likely to lie dormant unless appreciated at the top."

A D V A N C E R E L E A S E ---------- A D V A N C E R E L E A S E

Waldron -- WMC 3406-7 PM-4609

WAR MANPOWER COMMISSION

ADVANCE RELEASE:
For Sunday Papers,
June 18, 1944.

Cleared and Issued
Through Facilities of the
Office of War Information

Technological advances and labor economies effected by management and labor have resulted in marked increases in labor productivity in airframe plants and are reflected in the speed with which the nation's aircraft schedules are being met, Paul V. McNutt, Chairman of the War Manpower Commission, announced today.

Recent gains in labor productivity, if continued, should result in the entire 1944 aircraft production schedule being met with no increase in the over-all number of workers employed in airframe plants, Mr. McNutt said.

A WMC survey, the chairman said, shows that the increased productivity in the airframe industry has been beyond all expectations and is almost breath-taking in its development. The survey, he said, indicates that by December 31, 1944, the labor productivity per worker is likely to reach four times what it was in January 1941.

Although airplane production in May was nine per cent greater than in April, and two per cent ahead of schedule, Mr. McNutt pointed out that total employment in airframe plants had declined for the fifth successive month, as of May 1, 1944, with a total drop of nearly nine per cent since December 1, 1943. In spite of the employment decrease, he also pointed out, total output of planes by weight rose approximately 29 per cent during the last six months.

The monthly output of planes in terms of airframe weight will probably continue to rise steadily during the remainder of 1944, he said.

Mr. McNutt said 39 per cent of the labor force employed in the airframe industry consists of women.

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END OF ADVANCE RELEASE: For SUNDAY Papers, June 18, 1944.

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X-30790

OCCUPATIONS

AIRCRAFT - 1945

DIVISION OF
PRESS INTELLIGENCE
O.W.I.
Tempo V Bldg.

PH.

SY. L

EDB

Star-Times
St. Louis, Mo.
479
DATE MAR 3 1945

Widowed Mother Of Six Wins Two Awards For Suggestions To Improve War Output

A widowed mother, two of whose six children are in the army, is the first of 4,800 women working in the Curtiss-Wright Corp. St. Louis plant to win two awards for production ideas.

She is Mrs. Edith Robb of 1243 N. Kingshighway, one of the original group employed in hand-forming work, a process of bending metal to a form with a hammer.

"I wanted something to keep my hands busy," said Mrs. Robb, who taught first-graders at Chaffee, Mo., for two years before moving her family here after reading about women being needed by war plants.

Interest in her work led her to submit suggestions for improving production methods through the plant's labor-management committee. Two of these were adopted and brought her the committee awards.

One of them proposed a device for holding airplane ribs while the rough edges were being smoothed. The other dealt with drilling rivet holes more efficiently.

How does she run a household in addition to working?

"The children say it's the schoolteacher cropping out when I allot the home work," Mrs. Robb answered. "But each has his own job and they co-operate very well. I feel sorry for any woman who has only one child."

The oldest son is Pfc. Jack Robb, 25, with the Ninth Army engineers as a mapmaker in Germany. He has been awarded a medal—his mother does not know which one. Next is T. Sgt. George Robb, who flew on 36 bombing missions over Europe, including the Ploesti raids and has won the Air Medal, Distinguished Flying Cross with several Oak Leaf clusters and a Presidential citation. He is now at a B-29 base in this country.



MRS. ROBB DEMONSTRATING the device which won for her an award at the Curtiss-Wright plant here.

Another son, Howard, 18, failed to pass army examinations, but has received American and British permission to appy for service in the Royal Canadian Air Force. The other children are Elizabeth, 16, a Soldan High School student; Joann, 14, in the eighth grade and Patricia, 11, in the sixth grade.

...04-passenger Model 87 airliner. Built ...e $10,000 wind tunnel model has a wing- made of laminated, aged birch and weighs

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..., Jr., whiffing 16 ... day night the Con- ...eat the L. D. S. out- ... Field, to the tune ...aints succeeded in get- ...ers as far as second ...me.

...ilight the Consolidated ...ok it on the chin 7 to 4 ...y Hi-Y Club with Pease ...ey handling Convair's ... to a big shindig in ...ls the Chargers merrily ...ursday night to the Pri-

...'s schedule:

...7 P. M.—L. D. S. vs. Hi-Y. ...vs. Convair Privateers. ...7 P. M.—Consolidated Dwell- ...air Privateers. 8:30—Davis- ...onvair Chargers. ...P. M.—Marana vs. Hi-Y. 8:30 ... Consolidated Dwellings. ...0:30 A. M.—Convair Domin- ...olidated Dwellings. ...7 P. M.—Hi-Y vs. Convair ...0—K. of C. vs. L. D. S. ...7 P. M.—Consolidated Dwell- ...air Chargers. 8:30—L. D. S. ...ivateers.

...nter

Round oak table, 35 in. diam. ...ition. Geo. Zimmerman (193- ...9 Veteran's Blvd. 0507-J1.

...: 2-bedroom brick-stucco house, ... Electric refrigerator, gas ...½ block from market, school, ...tal price, $5,250; terms. Also ...saddle, breakfast room suite. Must ...ing East. Want good late model ...ll pay cash. H. A. Tolliver, 26 ...dent St. (140-91235) 2nd shift.

...: 25 ft. house trailer with elec- ... and stove. (Miniature Trailer ...ross from Consolidated. A. L. ... Shop Insp., 2nd shift. (No chil-

...: Emerson 16 in. oscillating fan. ...eek, 1422 East Spring St. 'Phone

Table top gas range. S. C. ...0-56532) 1st shift. Ext. 187.

Minor auto repair work in morn- ... Troesch (22-91493) 2nd shift.

Students who are interested in ... to fly. Contact Pima Fliers, Inc. ...wry, 24-59803, Ext. 176.

...there was, and he took a ...hey carried him off in an ...e.

Woman Wins $25 For Suggestion



Elnora Nuckels

Elnora Nuckels (25) topped last week's suggestion award list, receiving $25 for a suggestion for numbering telephone move and installation orders to aid in checking service charges.

Other award winners were Elizabeth Crane (22), new method of receiving and recording Eagle kits in production stores, $16; Mildred Tousley (24), rework of gathering cabinets for inspection books, $5; Tomas Carrillo (194), painting navigator's table after rework, $5; C. H. Keneaster (142), reflector addition to Meriam monometer to aid in its usage, $5; D. S. Barber (27), additional payment for previously approved suggestion about deletion of parts for safety board installation, right waist gun, $5.

☆

DRIVERS' LICENSE TESTS

State drivers' licenses will be issued at the plant Tuesday at the Employe Service office. Please remember to see your immediate superior before leaving work to take advantage of this assistance.

...pends upon ... ...serve peace, and wo... ...preserve her prosperity.

The tunnel was financed and owned by Consolidated Vultee, Douglas, Lockheed and North American aircraft companies, and will be operated by Cal Tech with Dr. Clark B. Millikan as director. Completed two weeks ago, three years after design studies began, the tunnel cost $2,500,000.

The new tunnel is a variable pressure, variable density, high speed wind tunnel with a working section of 8½ feet by 12 feet, and can accommodate models of the size which experience has shown to be most satisfactory.

With 12,000 horsepower available to produce the airflow, velocities up to 700 miles per hour can be attained. Specifications required that the tunnel be air tight so some 1500 tons of welded steel plate were used in its construction. In order to assure a uniform and non-fluctuating flow of

wi... N... sep... test... air, ... trac... work... ahea... feet, ... 12 ... tion ... T... by a... ter ... 18 ... gate... flow... of t...



UNFORTUNATE 'WI... popular contest is W... in April had the great... a doctor. Traffic will...

Truscon Laboratories
5/23/45

Fairchild NEWS



Fairchild NEWS

Vol. VIII, No. 7 June, 1945

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Published for and by the employees of
FAIRCHILD CAMERA & INSTRUMENT
CORPORATION, NEW YORK
Production Units at
88-06 Van Wyck Boulevard
Jamaica 1, N. Y.
and
475 Tenth Avenue, New York City 18

★ ★ ★

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Photographs—Cover picture, Page 1 Official U.S.A.A.F. Photos; Photos Page 2, top Page 3, Page 5, back cover by Fred Messner and Carl Anderson; Photos bottom Page 3, Page 4 by Air Technial Service Command; Photos Page 6 by Muller-King-Weese Studios; Photos Page 9 Courtesy U.S.A.A.F.; U. S. Signal Corps and U. S. Navy; Photo top Page 11 by U.S.A.A.F.; Photos 12 and 13 by Fred Messner.

★ ★ ★

Contributors

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Mimi Boyer.....Publicity, Manhattan

★ ★ ★

COVER ILLUSTRATION

Even before the pilot has jumped to the ground, from a Fairchild K-17 camera is removed the A-5A magazine containing precious combat shots. Important films taken on the mission are raced to be developed, printed and made ready for study as part of the aerial surveying tactical war waged so valiantly and successfully against the enemy.

OF *This*-AND *That*

WOULD YOU LIKE TO BE GRADE-LABELED?

Among the war's interesting by-products is the news that Army psychologists set the mental age of the 1945 G.I. at 14 years, whereas that of the 1917-18 soldier was estimated at 12 years. At first glance, it would seem that our wars are fought by the mentally deficient, but the first glance doesn't tell the story. The tests by which the age levels were determined turned on the ability to perform "simple stunts," an ability which does not increase after the age of 14 or 15 years. So the information is as useless as are some other attempts to rate people and commodities by an A-B-C grading based on arbitrarily selected qualities.

People and goods cannot be judged by such standards. An infantry commander selects his subordinates, not because they can do the simple stunts of a psychological experiment, but on their ability to do a complicated job. And similarly, a woman shopping at the grocer's for a can of peas, or a man shopping at the photographic dealer's for a camera, knows from experience the identifiable brands which guarantee that the product will do the job demanded. An "A," "B" or "C" grade on the can or the camera may indicate the product has passed certain tests, but essentially they are "stunt" tests. These tests, in the case of the peas, do not even pretend to prove, for example, either excellence of flavor or nutritional values; in the case of the camera, they wouldn't prove the integrity of the people behind it, the interchangeability of its parts, the flawlessness of its lens, the life expectancy of the delicate shutter. Furthermore, such "grades" can give no assurance that two cameras, though they might bear Grade "A" labels, will be alike even in the tested qualities, much less in precisionized performance.

People and merchandise must be judged by their whole character and performance. When a manufacturer sends a product to market, branded with his name and trademark, he gives his customers the assurance of sustained qualities. His works can be identified. If they fail to please the public, the brand identity safeguards the buyer against a repeated mistake. If his product satisfies the customer, the brand name assures that manufacturer a steady and growing patronage. In either case, the public interest is protected.



New Master Photo Ship

Two-Fold Job Is Accomplished By This F-13A, an Adaptation of B-29, with Complement of Six Fairchild Cameras

Details of the equipment of B-29 photo reconnaissance planes now in action in the Pacific, have been released by the Army Air Forces at Wright Field, Dayton, Ohio.

Designed by the Air Technical Service Command in conjunction with Fairchild Camera & Instrument Corp., and Boeing Aircraft Co., the plane is designated the F-13A, and carries more cameras than any other reconnaissance aircraft, without sacrificing any of the deadly firepower of the superfortress.

It can deliver almost as much weight of bombs as the B-29, and matches its range and speed. It employs a full combat crew of 11, plus camera technicians.

The F-13A's battery of six Fairchild cameras makes it the most versatile of reconnaissance planes. For photo-mapping territory, the F-13A has a tri-metrogon installation of three Fairchild K-17 mapping cameras mounted side by side and operating synchronously. One points straight down and the others, flanking it, point their lenses toward the horizons. The tri-metrogon set-up photographs a strip 20 to 30 miles wide, depending on the altitude at which the plane is flying.

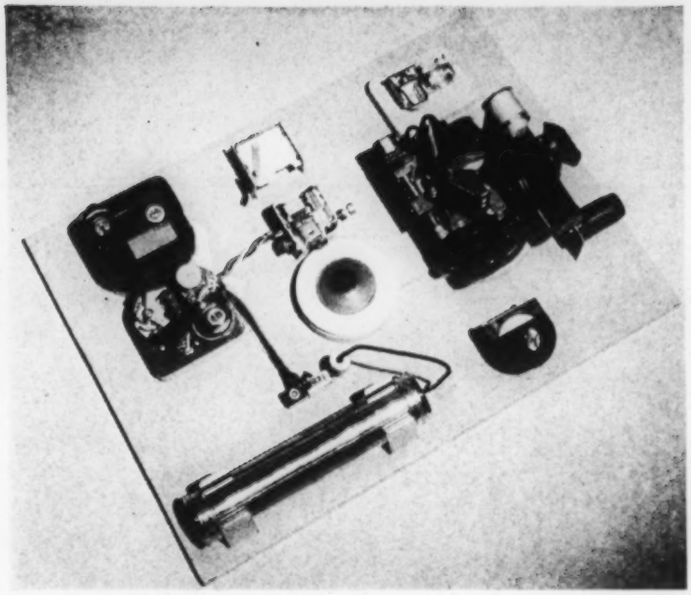
For highly detailed reconnaissance and photo interpretation work, the F-13A carries two Fairchild K-22 cameras in a split vertical mount. These cameras photograph particular targets, such as railroad yards, harbor facilities, gun installations or industrial plants. In contrast to the tri-metrogon, the area covered by split vertical cameras at 20,000 feet is only about two miles wide.

The sixth camera is a Fairchild K-18, with an assignment similar to that of the split vertical pair, but covering a wider range and taking a large negative. It is used for close-ups of specific areas mapped by the tri-metrogon installation, and for photographing target areas which do not require the pin-point detail of the split vertical.

The F-13A can also be equipped—and is, in many cases—with the Fairchild K-19 night camera.

The K-17, K-19 and K-22 make 9″ x 9″ negatives, and the K-18 has a 9″ x 18″ negative size. Film is fed from rolls ranging in length to 390 feet. On a routine mission the F-13A's cameras can take more than 5,000 separate exposures, using enough film to make 7,500 rolls of films for ordinary box cameras.

Because the F-13A usually operates at from 20,000 to 35,000 feet, special glass had to be used in the windows through which the cameras photograph to withstand the difference in pressure inside and outside the plane at those altitudes without diminishing the clearness and effectiveness of the photographs. This glass is ¾″ thick, flawless, and absolutely flat.



The "breadboard" setup, which shows the inner workings of the A-10A sextant.

FAIRCHILD "BREADBOARD"

by MIMI BOYER

To give students, navigators and repair men a graphic idea of what makes the Fairchild A-10A sextant click, gadgeteers in the Service Department, Rudy Ladehlma and Larry Lutz, have worked out a new device.

In what is known as the "breadboard set-up" the sextant is broken down into assemblies, sub-assemblies and component parts, all of which are fixed to a board, with housings and covers removed so that the inner workings are visible.

On the right side of the board is displayed the optical system: the rotating field prism which catches the star's image and passes it on to the fixed prism and from there to the eyepiece where it shows up encircled by the image of the bubble (artificial horizon). The field prism can be rotated by the control knob, just as it is in the complete sextant. Beneath it is a cutaway of the gear system that shows how it moves the prism and simultaneously turns the counter to indicate the prism's angle.

To the left is the sextant's electrical system, with the parts wired so that they operate as in the complete instrument. Current from the battery runs the electric timer. The timer turns the current on and off once a second to make a magnet coil snap a recording pencil against the marking disc. The resulting marks on the disc represent the readings of altitude. From 60 to 90 of these are needed, in actual use of the sextant, on account of the plane's unsteadiness, and from these an average is taken to insure a reliable observation.

There are two sextant boards in existence to date. One of them is being used by Warren Abbott in teaching classes of Army personnel on the Third Floor of the New York plant. The other has gone on the road. One of its more recent trips was in the company of Larry Lutz who made a tour of Army Navigation schools and B-29 bases in Colorado, Kansas and Nebraska. With the board and a series of slides he gave lectures to classes of navigators and maintenance men, explaining the operation of our A-10A sextant, its purpose and maintenance problems.

"Those B-29 guys like our sextant best of any," reports Larry. "The astral dome on board the Super-Fort is small and the navigator is cramped for space. He wants to get his readings and get out of there quick. So the easier the sextant is to handle the better, which is where our A-10A does the trick—it's so simple."

This program has proved so successful that similar plans are being laid for the gun camera. It has opened the way to see that there is no limit to the numbers of short-cuts that can be made in the general teaching of use and maintenance of our instruments.



Pfc. Ella Gruenbaum and Pfc. Elizabeth Miller work with the collimator which insures proper alignment of the sextant's bubble.



Warren Abbott, Fairchild instructor, demonstrates the breadboard to a class of Army maintenance personnel.

THE SEXTANT GOES TO SCHOOL

T. E. Bissell of Technical Data reports that one of our A-10A's spent a month on loan at the Horace Mann School for Boys. Here T. J. Kalligan, mathematics instructor, used it to teach a class of 45 special volunteer students in celestial navigation. These seventeen-year-olds will, upon graduation from the school, be eligible for the Air Forces.

May 6, 1945
Germany

To all my friends of Fairchild:

With the inevitable downfall of Germany close at hand may I say thank you one and all, for the splendid job you accomplished, whether behind an oily machine, a parts laden bench, or a paper crowded desk.

Although I didn't serve as a fighting soldier, but as a combat photographer, I did have one of the best opportunities to see and make permanent on film, the exploits of your "fighting Yanks." Yes, your sons, brothers, sweethearts, and husbands. You should be proud, all of you, for without the production you people in Fairchild and other war producing plants accomplished their determination and unbelievable courage would have all been in vain.

Once, just once, in a bombing area is sufficient to prove the thanks and confidence of American soldiers, defenselessly dug in God's earth while bombing of enemy concentrations, revealed by aerial photographs, is eliminated close by. *An inaccurate photograph, a slight error in navigation would end their many hopes and prayers of returning home,* if the mechanical efficiency of the equipment used, were not as near perfect as is humanly possible. I witnessed this with infantry troops of your American 1st Army, and I felt proud of the five years I spent at Fairchild, abiding by the high standards which by now have become world-known.

Fierce engagements, on the part of your fighting men will not cease with the surrender of Germany. You can't let those boys in the P. T. O. down. Keep up the fine job you're doing, and the sight of loved ones, or perhaps someone elses, coming home alive and healthy will be a more than adequate reward.

For those of you in Fairchild, who have had your loved ones sacrificed for a better, more civilized world, I offer my deepest sympathy. They did not die in vain, and I, as well as every American fighting soldier, will never forget them.

The best of everything to all of you from your co-worker . . .

Previously of your Planning Dept.
Bill Kluger

JOB WIELDER

"I *don't* know how she does it," is comment of less-busy Fairchild women workers as they observe the dizzy routine followed by Marjorie Ruland, Jamaica forelady of Mechanical Inspection.

Mother of two sons, aged 9 and 7, Marjorie manages her household with one hand and her job with the other and does a swell job all around. Putting in a 10-hour day in the plant Monday-Thursday, on Friday she works 9 hours and on two or three Saturdays a month she works 8 hours. Then she goes home to clean, bake, cook and sew over the weekend. And from what we hear, she really wields a rolling pin . . . in the kitchen, for she bakes a great deal of the family's food, deliciously.

Having worked as secretary in a real estate office and as receptionist in a beauty parlor before she came here, Marjorie did not have much knowledge of mechanical work when she started in Milling on a turret lathe in 1942. Later she worked in Sub-Assembly, Paint Shop, and in Optical.

Julius Minkow, now in charge of all inspection departments in Jamaica, asked her to come into the Inspection Department as a special learner. Now she supervises the women in various inspection jobs in Jamaica, about 50 in all, and trains girls as they come in as special learners, switches the girls as the jobs warrant, etc. She has to keep track of absences and all such routine matters, as well.



Marjorie Ruland, right, Forelady in Jamaica Inspection Departments.

Marjorie's husband also works but they spend their evenings together, after the children are in bed at 8:00, frequently doing jobs like the one they just finished: insulating and painting the attic, making it into a room for the boys and a guest room. Although it took a great many evenings and weekends they figure it was time well spent, and from the results, a job well done. They also have time, somehow, to take the children to the circus, football games and spend a great deal of time with them.

From the way it sounds Marjorie Ruland and family are so busy just living that they must spend too much of the time catching up with life for it to grow monotonous.

AAF REPAIRS AERIAL CAMERAS ON MASS PRODUCTION BASIS



Gun camera repair line at San Bernardino, California Air Technical Service Command employs endless chain conveyor to speed production. Cameras that have helped train AAF gunners or that have photographed death in the skies over enemy territory are restored to first-class condition.

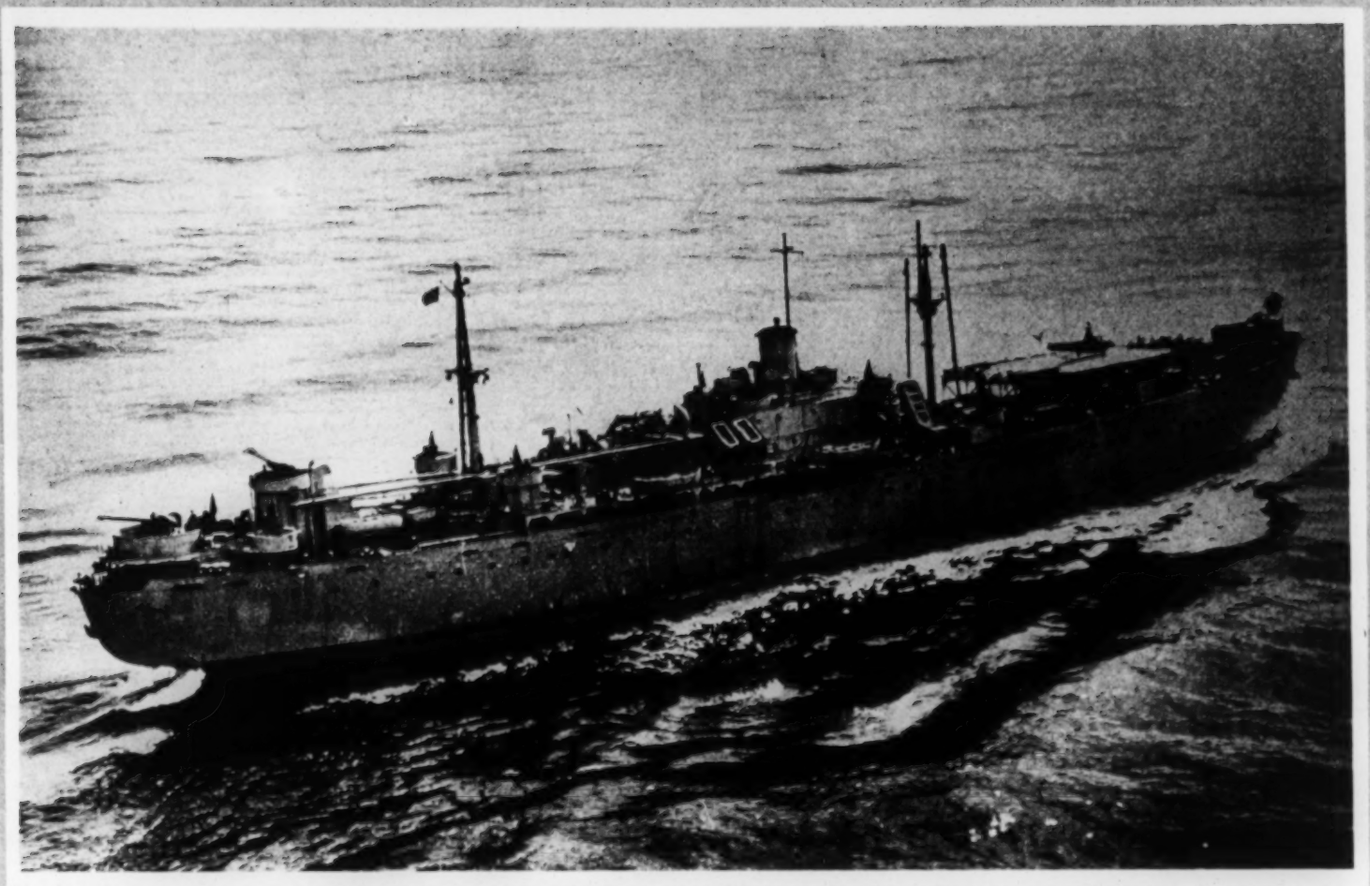
Fairchild machine gun cameras which have been of inestimable value in the teaching of aerial gunnery, and which are a valuable means of recording American victories in the skies, are being overhauled and repaired by the Air Technical Service Command with conveyor line production methods.

The moving line repair system was introduced by the Air Technical Service Command, the giant AAF engineering, procurement, supply and maintenance organization, in line with its policy of utilizing mass production technique to speed large scale overhaul operations. Thousands of cameras are being turned back into service each month by the ATSC.

The AAF currently is using 175,000 of these cameras, most of them Fairchild's. First of ATSC's maintenance and supply centers, scattered throughout the United States, to install the conveyor line system was the San Bernardino (Calif.) Air Technical Service Command, which in its acres of maintenance shops has the equivalent of several factories, each specializing in a different type of aircraft equipment repair.

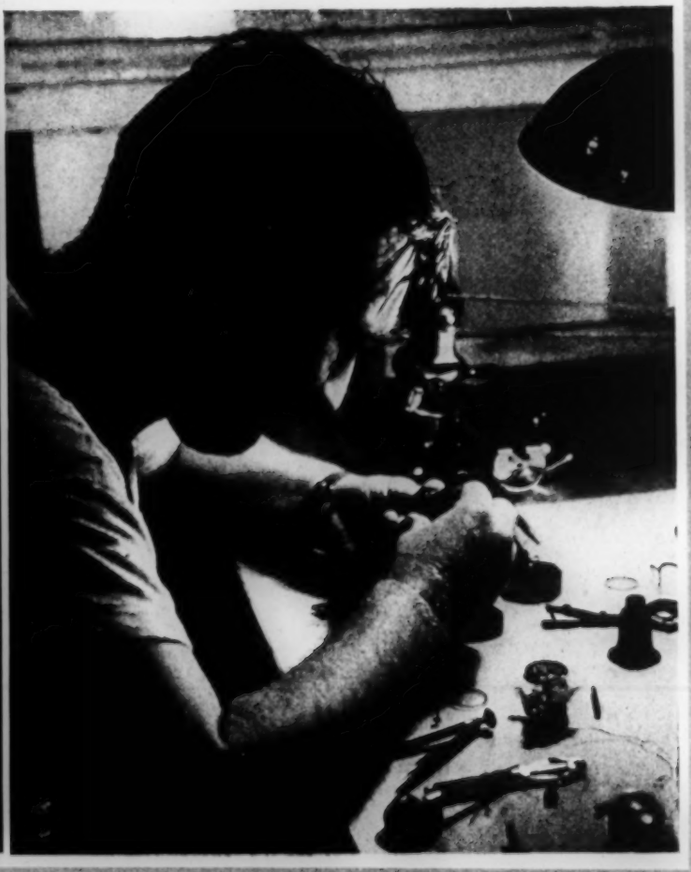
The San Bernardino line shown here performs nine operations in rejuvenating the cameras. They include taking them apart, cleaning, motor overhaul, check for focal length adjustments and other adjustments, then re-assembly. Five of the adjustments are so precise that tolerance is limited to within thousandths of an inch accuracy. Final tests are made by operating the cameras, developing the film on the spot and flashing it on a screen to check the results.

Photography Afloat



Aerial view of the liberty ship on which is based the First Aircraft Repair Unit (Floating). Below, left: Fairchild camera being overhauled and made ready for action. Right: Facilities for repair of watches used in aerial cameras are complete.





PHOTOGRAPHY AFLOAT

Recently the Air Technical Service Command at Wright Field revealed a hitherto closely guarded secret: that there are a number of liberty ships doing maintenance work on Superfortresses at Saipan, Guam and Tinian, and other places where repair work on our fighting aircraft is needed.

We are interested because, besides having numerous other shops these floating Aircraft Repair Units have fully equipped camera repair depots and men well qualified to keep Fairchild cameras in A-1 operating condition for reconnaissance over Jap-held territories.

Mission of these unusual floating machine shops is to provide ready-to-operate facilities for heavy and complicated repair work, technically known as "fourth echelon maintenance," during the critical two-to-six-month period needed to set up similar facilities ashore in newly-won areas.

Mechanics work on shipboard, or go ashore when necessary in 30-foot work boats, "ducks," and Sikorsky helicopters, although if pier facilities exist or can be built, the vessels may be docked.

The helicopters use tiny flight decks built over the forward portion of the main deck of each liberty ship. Thus when a B-29 is downed and its own ground crews are unable to repair it, experts from one of the floating repair shops may fly to the scene and assess the damage. Small assemblies and tools may be flown between ship and shore, while larger parts are transported by work boat or "duck."

The floating repair shops were developed to supplement land-based depots, because of the problems created when the latter installations moved to a forward area.

Besides a complete camera repair shop, each ship is equipped with the following shops: machine, welding, sheet metal, heat treating, electro-plating, ordnance, turret, ground and airborne radar, radio, propeller, carburetor, turbo-supercharger, electrical, paint-dope and fabric, woodwork, instrument, bombsight, tire, fuel cell, parachute rigging, and drafting. There is also a plant for the generation of aviator's breathing oxygen, the largest mobile plant of this description overseas.

In addition to its maintenance facilities, each ship has its own hospital, chaplain, finance officer, intelligence officer, orderly room, messing facilities, sleeping quarters, laundry, "PX", post office and brig.

The mechanics, called "sail-jers", who go down to the sea in these highly specialized ships, and who spend more of their time afloat than they do ashore or in the air, are trained for their specialties by ATSC.



An interested discussion: Left to right: George Podeyn, Major Patrick Daly, Lt. Col. Philip A. Kennedy, Lt. Walter Levison, Lester Combe and Major Raife Tarkington.

RECENT VISITORS

A visit of inspection with the purpose of obtaining data concerning our recording camera was recently paid us by distinguished Army personnel: Major Raife G. Tarkington, one of the Assistant Chiefs of the Photographic Laboratory at Wright Field; Major Patrick J. Daly from the Office of Assistant Chief of Air Staff for Materiel and Supplies in Washington, Lt. Col. Philip A. Kennedy, executive of the Reconnaissance Branch of the Office of Operations, Commitments and Requirements, and Lt. Walter Levison, Technical Engineer from the Photographic Laboratory at Wright Field.

The guests were escorted through both plants by their guides, Revere G. Sanders, Assistant Vice-President and George J. Podeyn of Contracts Department, and seemed quite pleased with the results of their tour.

POST-WAR PLANS

V-E Day in New York was cold, rainy, miserable and Fairchild employees were quite content to take the holiday they got and spend it in at home, out of the weather.

But the lights glowed in one office of the Manhattan plant and three heads bent over desks, oblivious to the silence in the rest of the factory. While their colleagues celebrated the end of half the war, the men doing our market research and post-war sales and distribution planning were harder at work than ever.

The trio of Fairchild post-war planners are Harold Everett, Oliver Johnson and James Hyde.

Everett has been with the company 2½ years, and Johnson (just call me "O.J.") and Hyde have just joined Fairchild. Everett is an engineer from M. I. T., was with another instrument firm before he came here. The others:

O.J., a Kansan transplanted from his native Missouri, where he attended Missouri University, has been with the OPA three years, was executive officer in charge of field operations nationally with headquarters at Washington, then was loaned to the New York region to establish board operations. Before his government work he was with Woods Brothers Corp. at St. Louis; spent five years with Mutual Benefit Life Insurance at Cleveland and Chicago as supervisor of agencies, put in another five years in his own office as a consultant on sales management, personnel selection and training methods. He has long been an amateur photographer, has done a great deal of technical photography for medical publications.

Jim Hyde has just ended a 3½-year stretch as a Navy officer. First off, he was liaison officer for the bureau of aeronautics to the British air commission, then he went into flying. Prior to his military service, Hyde was with the Ford Motor Company, in his native New Orleans, then with the Walker Saussy Advertising Agency, managed its Memphis office, where the chief customer was Ford. He is a graduate of Tulane University.

Fairchild in the post-war years will continue to manufacture most of the cameras and instruments we have in the past, for commercial and military sales, plus a number of new items in various lines, most of them still in the embryonic stage. First big jobs for the post-war group are to get our sound-equipment, X-ray cameras, and certain other products, now in manufacture, properly marketed.

THE SMART GIRL

To Frances Coogan, secretary to Henry Blackstone, Navigation Laboratory, it is nothing to sit down and whip out a little number—dress, hat and bag, all matching or blending harmoniously. For Frances inherits her flair for designing and making clothes from her grandmother who was a designer in Paris and New York, and who taught Frances a great deal.

With Frances for the past ten years that she has been making all her own clothes, with the exception of her coats, has been "Tessie," the adjustable dummy who is always kept Frances' counterpart in size. Everything gets draped on Tessie, and she is studded with pins sometimes almost as closely as a porcupine is with quills.

Frances' grandmother started her career as a designer as a young girl in a hat factory in Paris when she was so young that she had to be hidden from the inspectors. Her work was mainly with feathers. From this she drifted into working in dress and suit factories, and finally in designing, after it was discovered that she had a talent for draping and had been permitted to do some creative work. She showed her work by modeling her own designs.

Coming to this country when she was 35, Frances' grandmother continued her work. Tailored suits were her specialty and she seldom wore anything else. She considered suits the smartest outfit for a woman in any station of life to wear.

In describing her designs, she would often say, "Try to catch the eye in a nice way."

Talking to Frances one day your ed gleaned the above information and conceived the idea of conveying some of Fran's knowledge to the readers. If you like this sort of thing and find the subject of future interest please get in touch with us. To Fran this is extra-curricular activity, so please address your ed, care of the *News*.



Navy and white tweed double-breasted suit. Wide pleated skirt and small off-the-face sport hat of the same material. Over this suit is worn a navy blue ¾ length cape with shirred shoulders and Peter-Pan collar. A navy blue envelope type bag completes the outfit.

COST:		
	4 yds. 54" material at $3.00 per yd.	$12.00
	1½ yds. 54" navy blue material at $3.00 per yd.	4.50
	Hat frame	.50
	Seam binding, zipper and thread	.60
	Buckle for cape	1.50
	Material for bag ½ yd.	.50
	Buckram for bag	.20
	Total	$19.80

Black twill peplum back collarless suit outlined with gold braid. Gored skirt. With this suit is worn a hat in the "Dutch girl" motif, made of the same material as the suit and trimmed with a Lily-of-the-Valley artificial flower. The bag is of the large envelope type with corresponding Lily-of-the-Valley in one corner, also of the same material as the suit.

COST:		
	3 yds. 54" material at $3.50 per yd.	$10.50
	Hat frame	.75
	Buckram for bag	.30
	Seam binding, zipper, thread	.60
	(2) Flowers	1.00
	Black braid to trim bag on inside	.50
	Total	$13.65

Fran says: Every girl desires to be stylish, but I think a much better word is "smart," but nowadays this means not only smart in appearance, but also economically speaking.

ECONOMICALLY SPEAKING

The smart girl is taking out her dresses these days and dividing them into light and dark colored ones. To the light dresses she adds a dark colored belt and flower, or a dark collar, and to the dark ones a touch of white or pink—something in the way of belt, flower, or collar. Thus she creates new dresses from old, besides being patriotic—for of course she puts the money she saves into War Bonds.

Perhaps she discovers that some of her blouses have worn sleeves. She rips out these sleeves carefully, hems around the armholes,—and presto! She then has a very nice dicky which won't continually slip out of her skirt as the dinky ones she buys do.

SAVING SPACE

To save space in her clothes closets ordinarily taken up by bulky skirts which invariably wrinkle our other clothes, the smart girl takes small pieces of tape 1/4" wide and about 3 1/2" long, matching the color of each skirt, and sews these on the sides of the inside seams of the skirt. The skirts can then be hung on the inside of the closet door very nicely, and crowding of our dresses is thus obviated.

Mother Nature endows all her creatures with either vivid coloring to enhance the brightness of the world, or protective coloring—but to each bird and animal she gives an appropriate hue. It is our job, since we clothe ourselves, to select wearing apparel which is suitable to our personalities and outward characteristics.

BASIC COLORS

There is no better way to brighten up our appearance than to wear colorful clothing, but we must take care to pick out the right colors. Too many girls seem to think that black is the only basic color. Whereas it is very serviceable, it is true, and always smart, brown, beige, grey and navy blue are just as attractive and blend in with many other colors. The smart girl knows that these colors are much more practical than odd shades that can't be worn very often. However, in selecting her basic color or colors she should take into consideration her own particular coloring and how the colors she will have to blend with the basic color will suit her.

Like nature we should wear colors according to the seasons:

During the fall and winter months—

Kelly green and red are very attractive with grey.

Deep purple and royal blue blend beautifully with beige.

Orange and brown make a very colorful team.

With the advent of Spring we need much softer shades to blend with the season—

With grey we can then wear white, baby pink or orchid.

With beige — baby blue, white or lime.

We can substitute navy blue for brown in the Spring and dress it up with white, rose or maize.

Of course there are many other shades which blend with these basic colors and the ones given are just suggestions. Experimenting gets the right answer after a while.

In Summer we can run the gamut of colors and keep them looking beautiful with white accessories.

GOOD USE OF GLAMOUR SHADES

When a new shade is initiated during the season, most of us are eager to buy a dress or hat in that particular color. Seasonable shades aren't too practical and they are also dated, as every year some other shade becomes the glamour-color of the season. So the smart girl will buy a suit or dress in a basic color and use accessories of the glamour-color of the season, and in that way get twice as much wear from her clothes.

FAVORITE COLOR IS GOOD FRIEND

Most of us are uncanny when it comes to picking out a color and keeping it as our very own favorite and nine times out of ten it is our most flattering color. A little color trick that helps to put over our outfits is to try to wear the favorite color in one form or another with every suit or dress. It often helps to overcome that self-conscious feeling we have when wearing new clothes. The favorite color is like a good friend backing us up.

Color is so important in making a good appearance that if we just take a little time in selecting colors that are becoming and practical, and blend smart colored accessories with them we will always be right in step in the fashion parade.



CAMERA PHANTASY—Creates bedlam on the old assembly line.

In Memoriam

Matthew Cullen, beloved Supervisor of our Jamaica Mailroom, passed away last March. Proof of his wide-spread influence and popularity with boys and girls of the plant has been the number of letters received since that time by his family—letters evidently written without knowledge of his death. We know that writers of these letters and many others, too, will join with us in sorrow over his passing. Serving in the capacity of Supervisor for the last three years, Mr. Cullen, father of Vincent Cullen, also of our Jamaica plant, was loved by everyone.

To All Civilian Workers:

General Eisenhower has announced the cessation of organized resistance in Europe. A thrilled and grateful nation is justifiably proud of all who made this accomplishment possible.

But this is total war -- a global war. We are but half way to complete victory. There remains to be conquered the entire Japanese nation. Men are still fighting, and still dying, and will continue to fight and die in the hard push to Tokyo.

The casualty lists tell the story, tragic yet glorious, of the fighting men's will to win unconditional victory, no matter what the cost. We have a solemn compact with these men. The road that lies ahead demands from each of us a matching determination and unity of effort that will shorten the time during which such sacrifices must continue.

Today every worker should rededicate himself and herself to the task of providing these men with the weapons and equipment they need to smash the remaining enemy. To delay now in celebration of past success would be fatal to carefully laid plans. We cannot -- and must not -- pause in discharge of our duty so long as a Jap remains a threat to the life of a single soldier or sailor.

Let each of us get on with our job.

E. J. King

Fleet Admiral, U.S. Navy,
Commander-in-Chief, U. S. Fleet,
and Chief of Naval Operations





HALF THE VICTORY WAS WON BY V-E DAY; LET'S COMPLETE THE V BY DIGGING IN TO HELP OUR BOYS AND GIRLS IN SERVICE BEAT THE JAPS. WE KNOW THAT OUR EQUIPMENT HELPS THEM TOWARD A VICTORY WHICH REQUIRES NO FURTHER BLOODSHED; IT HAS BEEN BROUGHT OUT IN THEIR STORIES IN VERBAL, WRITTEN AND PICTORIAL FORM AGAIN AND AGAIN.

THAT OUR IDEAS IN IMPROVING THE MECHANISM OF OUR MACHINES OR THE MANUAL HANDLING OF OUR WORK ALSO PLAYS A MAJOR PART IN APPROACHING TOTAL VICTORY CANNOT BE STRESSED TOO MUCH.

THESE ARE OUR PEOPLE WHO MOST RECENTLY CONTRIBUTED TO ULTIMATE VICTORY BY SUBMITTING THEIR IDEAS TO OUR SUGGESTION AND AWARD COMMITTEE OF THE LABOR-MANAGEMENT COUNCIL:

READING FROM UPPER LEFT-HAND CORNER OF V, DOWN TO POINT AND UP TO RIGHT:

UPPER LEFT: THOMAS LEDWITH OF ROUTING, WHO BY IMPROVING FILTER ASSEMBLY TO COMPENSATE FOR DIFFERENCE IN THICKNESS OF GLASS SAVED METAL MATERIAL AND CUT ASSEMBLY TIME. AWARD: $50.00.

SECOND LEFT: CHARLES WEILER, MANHATTAN TOOL ROOM, WON $50.00 FOR HIS COMBINATION STAKING AND CUT-OFF TOOL USED IN TERMINATING LEADS.

THIRD LEFT: FOR TWO IDEAS JOHN J. DONNELLY, OF JAMAICA INSPECTION WON $15.00 AND $10.00. HE SUGGESTED THE USE OF A SPECIAL BOX FOR BUBBLE CHAMBER TO SIMPLIFY HANDLING AND PROTECTION IN TRANSIT, AND AN ADAPTER AND BRACKET FOR COMBINING TWO OR MORE INDICATORS ON BENCH CENTERS.

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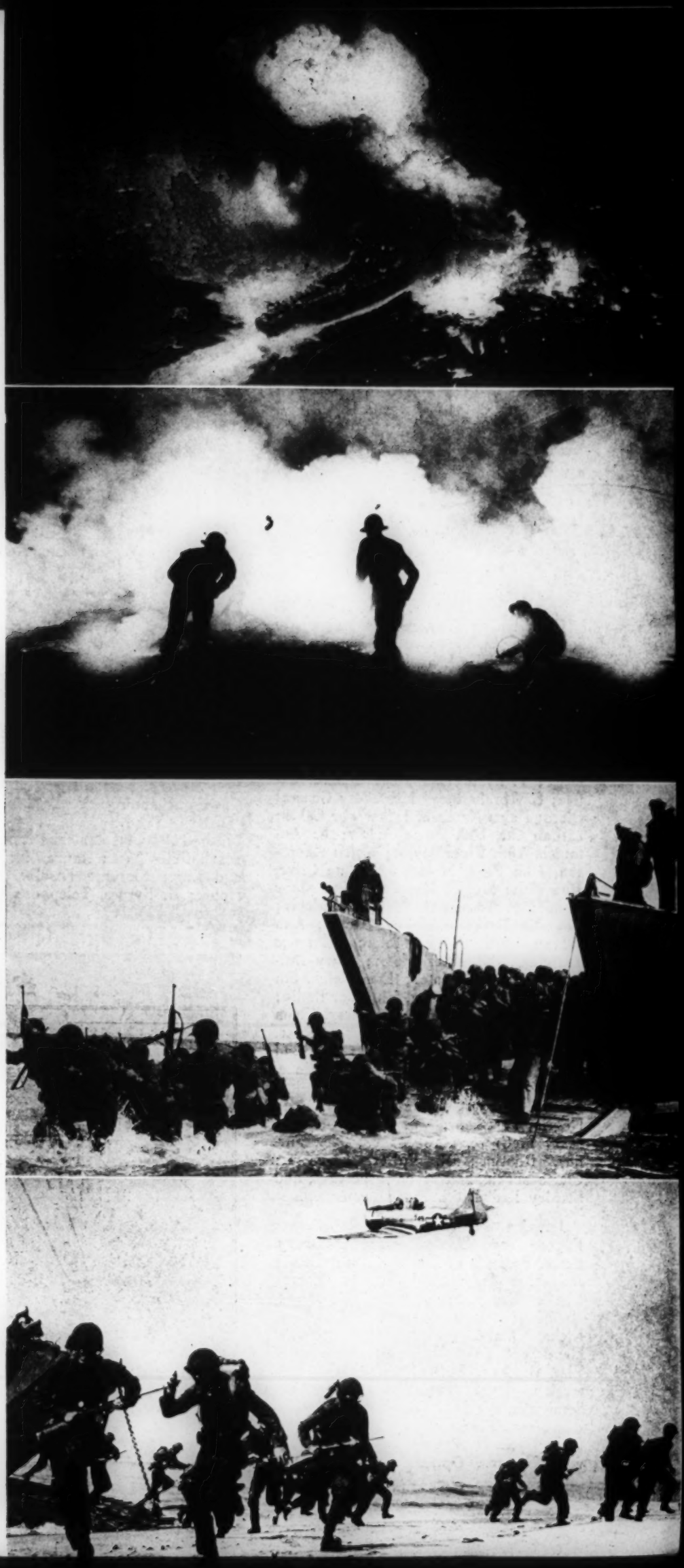


FOURTH LEFT: THOMAS ODDY, DRILL PRESS, JAMAICA PLANT, FOR HIS IMPROVEMENT ON LATHE FIXTURE FOR THREADING AND CUTTING BARREL LENGTH ON SHUTTER HOUSING ASSEMBLY RECEIVED $15.00.
LOWER PICTURE, RIGHT IN V: LILLIAN PARKER, NIGHT SHIFT DRILL PRESS, SUBMITTED AN IDEA FOR IMPROVEMENTS ON DRILL JIG TO E HANDLING AND NETTED $10.00.
D ABOVE, RIGHT: SAVING TIME WITH HIS SUGGESTION FOR A SPECIAL OR DRILLING AND TAPPING METROGON CONE, MICHAEL SIRKO, OF HIFT DRILL PRESS, WON $15.00.
RIGHT: FOR TURNING IN HIS SUGGESTION FOR A SPECIAL LATHE OR MACHINING A MOTOR HOUSING END BELL, JOSEPH ZABAWKA, HATTAN'S MACHINE SHOP, RECEIVED $40.00.
GHT: ARTHUR CHEBUSKE OF JAMAICA INSPECTION SUGGESTED A WAY ANGLES ON SYNCHRONIZER TRIGGER MOTORS AND WAS AWARDED

LEFT: SUGGESTING THE ELIMINATION OF ONE OF THE STUD LENGTHS ED ON TEST OSCILLATORS, ANDREW RIANO OF OPTICAL SAVED SETUP D MADE A NICER LOOKING INSTRUMENT, WINNING $10.00.
CENTER: VITO PREZZANO OF NIGHT SHIFT'S DRILL PRESS SUGGESTED NG HOLES DRILLED ON TEST OSCILLATOR HOUSING INTO ONE TEMPLET, MINATING AN OPERATION. AWARD: $10.00.
RIGHT: ARMIN SCHALLER OF SHUTTERLEAF IN JAMAICA MADE A TION STRAIGHTENING BLOCK FOR ADJUSTING LEAVES ON METROGON ASSEMBLY, AND WAS GIVEN $10.00 BY THE SUGGESTION COMMITTEE.

EIR BUSINESS







Bob Troidl has been representing our corporation in England for 1½ years and is carrying on admirably there the good work he did here when he became so well liked for his efficiency and good humor.

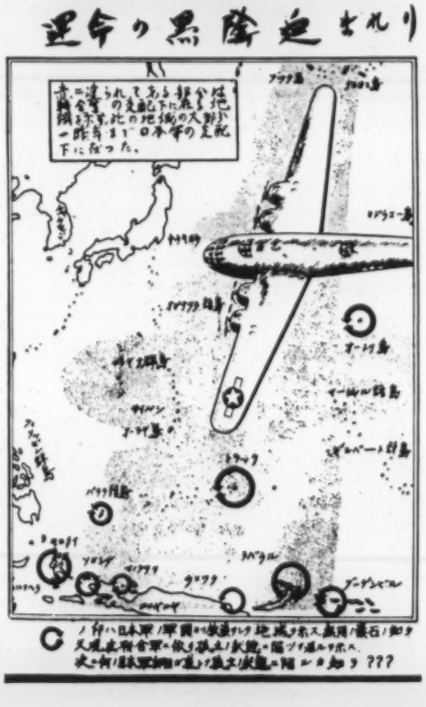
WORKING FOR V-J DAY

Contributing their services unselfishly for a worthwhile cause: raising money for the 7th War Loan Drive, are the following Bond Captains:

Manhattan plant: Agnes Kelley, Personnel; J. Tierney, 13th Floor Engineering; Z. Kansanjian, 13th Floor Engineering; V. Wright, 12th Floor General Office; F. Ryan, 12th Floor General Office; L. Abrahamson, 12th Floor General Office; Helen Naccash, 11th Floor Cable; Lillian Ott, 10th Floor Motor; K. Antonich, 10th Floor Motor; Helen Anderson, 10th Floor Motor; Madeline Olive, 10th Floor Motor; Rae Parks, 9th Floor Motor; P. Tomaselli, 9th Floor Motor; Cornelia Burke, 9th Floor Motor; Ann Waters, 8th Floor Motor; Florence Trappani, 8th Floor Motor; Mary Delfino, 7th Floor Motor; Eva Welch, 5th Floor Radio; Ed Layng, 5th Floor Radio; E. Cassard, 4th Floor Comp. Assy.; Lena Cacciatore, 3rd Floor Mach.; W. Fletner, 2nd Floor Mach.; Louise Garlepp, 2nd Floor Mach.; Elizabeth Cirringione, Radio Fin.; Anna Smith, Radio Fin.; Frieda Leissler, Contract Dept.; Betty Negrin, Basement; Olga Font, Shipping; Mary McGuire, Maintenance; Nick Furney, Routing; R. Fuller, Basement; Claire Sorkin, 2nd Floor Inspection; and Stanley Redka, 6th Floor Inspection.

Jamaica Plant Bond Captains are: Eugene Vege, Tool; Edward Wahlberg, Emer. Tool.; Wm. Miller, Turret Lathe; Josephine Fitzharris, Milling; Warren Keates, Grinding; Caroline Spielberger, Hobbing; Pauline Diener, Grinding; Richard Marz, Hand Screw; Ann Fenty, Hand Screw; Gus Williams, Drill Press; Elsa Bradner, Drill Press; Elmer Emmerich, Drill Press; Geo. Seaman, Straightening; Marjorie Knasin, Finishing; Francis Orkwis, Finishing; Virginia Berg, Optical; Agnes Fox, Optical; Edwin Edwards, Optical Assembly; Rose Dombek, Camera Assembly; Francis Megan, Camera Assembly; Julia Cucco, Camera Assembly; Betty Rizzi, Camera Assembly; Michael Lombardo, Camera Assembly; Madeline Travers, Camera Assembly; Khelu Abbondandolo, Unit Assembly; Doris Cummings, Unit Assembly; Ann Ahlstrom, Sub Assembly; Theresa Thornton, Sub Assembly; Michael Regina, Treo Assembly; Margaret Harte, Optical Grinding; Alice Hutchins, Mech. Maintenance; Mary Bellows, Treo Inspection; Mary Potenza, Production Inspection; Jean Bosakowski, Production Inspection; Helen Bosnak, Optical Inspection; Virginia Hoehing, Final Camera Inspection; Morris Rost, Maintenance; Edward Gullen, Experimental; Mary Nikonchuk, Experimental; Stella Calcanes, Routing; John Hadzick, Shipping; George Schumacher, Receiving; John Gigante, Warehouse; Mary Smith, Automatic and Hand Screw; A. Masone, Tool; Katherine Van Conas, Turret Lathe; Henry Paulis, Optical Grinding; Eleanor Gleason, Grinding; Frank Servedio, Hand and Auto Screw; J. Kellner, Drill Press; P. Reilly, Drill Press; Arthur Rauch, Straightening; Joseph La Salla, Hobbing; John Campbell, Finishing; J. Mole, Finishing; Virginia Holderby, Mech. Inspection; Ann Vaskis, Mech. Inspection; Dan Kelleher, Maintenance; Dorothy Callahan, Labor Relations; Joan Weidinger, General Office; Vivian Ussher, Payroll; Madeline Lingman, Bond Department; Frances Jelinska, Term.; Carl Pasdack, Cost Acct.; Ruth Jacobson, Engineering; Marion Stevens, Scheduling; Katherine McGovern, Planning; Wm. Flaherty, Purchasing; Gladys Egland, Production; Mildred Hlinka, Material Control; Ed Black, Sales Acct.; Hannah Kreiss, Tech. and Eng.; Florence Fasullo, Personnel House; H. Byrnes, Telephone Room.

PAPER BOMBSHELLS



From island to island and atoll to atoll we are moving in on the Japs. Handfuls of these leaflets are being thrown from our planes on Jap-held territory to keep them posted on our progress. This one was brought back recently from the Pacific theatre by Lt. Albert Bellsey, captain of a Navy patrol bomber. "We take a couple of your K-20 cameras along on every mission," he said in a recent interview, "and whoever isn't too busy takes pictures of what the rest of the crew is doing: strafing an airfield, dropping bombs on a Jap tanker or shooting up a convoy of trucks. The only time we forgot to take our cameras along we ran into what looked like the whole Nip Navy. We had one heck of a time getting the guys back at home base to believe our story—with pictures it would have been a cinch. From that day on we never took off without our K-20s.



Pfc. Al Maier, who is stationed in France with a photographic outfit, formerly was a member of our Electrical Assembly Dept. Camera Al is proudly holding high is Fairchild K-22.

MARCH OF THE ZOMBIES

We see it every morning
It happens every day
A double file of females
Meander on their way.

The thing that puzzles all the men
And gives the boss gray hairs,
Is when the girls go to the powder room
They always go in pairs.

Perhaps the trip is long and rough
The hall is dark and lonely
But two by two they always go
To the room marked "Ladies Only."

The poor boss stands and tears his hair,
He's simply worn with grief,
The days' production goes to hell
While the girls go on relief.

At one o'clock each afternoon
The march begins once more
What goes on in that back room
That cannot wait till four.

The only way that I can see
To make production boom
Is to move the whole damn plant
Into the ladies' room.

ANONYMOUS

ROCKETS FROM MARZ

by DICK MARZ

Received letters from Frank Bravato, William Gleason, Jim Klein. It was good to hear from them again . . . Wilbur Schnatz was recently a visitor at the plant after having been away for over a year. Wilbur tells us about the Japs they see in the waters of the Pacific . . . Irma Daley has left us. We wish her the best . . . We could all take up a collection to get Harry Keller a new car. Harry averages about ten hours a week getting his car started and changing flat tires. How about getting a tricycle for him and his riders? . . . George Ossman does a swell job sharpening saws. He has the latest equipment for it . . . Did you see Joe O'Rourke beaming? His N. Y. Giants are winning a lot of ball games . . . Mary Radzeweluk won the V-E guessing-the-time contest. Methinks that Mary heard personally from Joe Stalin before making her guess . . . Joe Likout knows a good way to dull a sharp hacksaw blade. Ask me how . . . Isn't Tom Casey a swell guy? That will cost you $1.00 . . . Do you think Bill Hogan keeps ribbing your scribe just for the fun of it? Bill could get a job being a chief heckler . . . Gertrude Wahl has a new supply of Caralsons in the crib. Who will be next, Gertrude? . . . Doesn't Joe Juda tower over those automatics? . . . The girls are really figuring out the point system for the discharges. I'll bet there are plenty of these boys eligible for release . . . Bill Settgast is keeping fat on his trips to the country. Fresh eggs, butter and meat. I'm your friend, Bill—remember . . . That Bill Liebold is quite the boy. We met his friend and must say: a bit of all right . . . Hank Kalt is hearing bells lately. I'll bet they get pretty loud by July . . . Ed Ripp sent a letter to John Heraty. Ed tells us everything is O.K. and wants to be remembered to the Beef Steak gang.

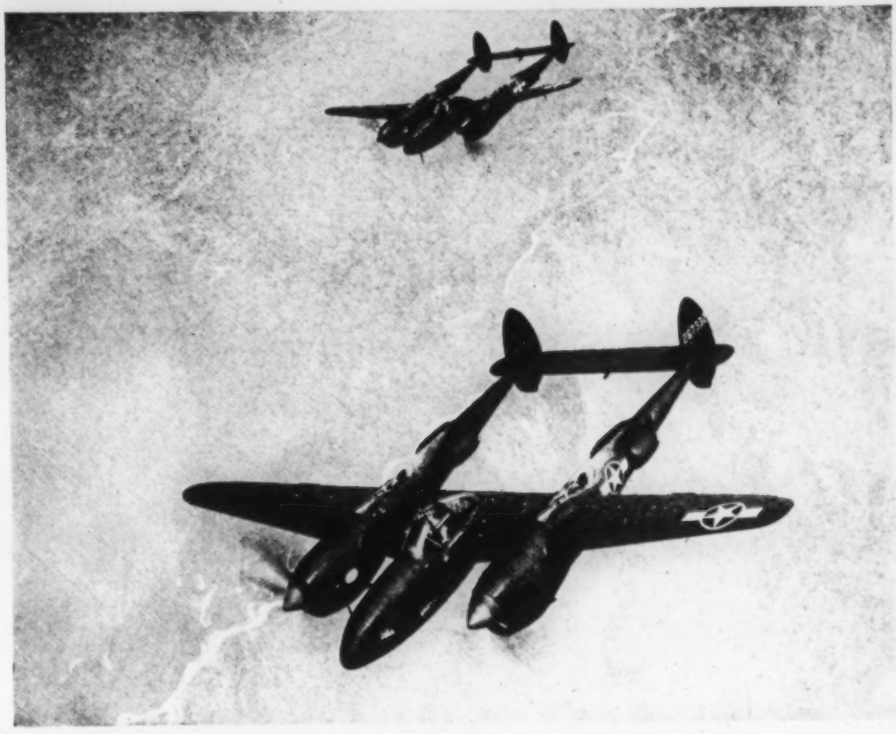
FINISHING TOUCHES

by JOE PARLA

Wedding bells rang for Gladys Lazarro, who married Sgt. Joseph Deptuck on a 49-day furlough. A few of the girls attended her reception. Lots of luck from the gang . . . Speaking of weddings: Freddy and Doris Krauss recently celebrated their ninth wedding anniversary . . . A beautiful diamond ring was put on Ruth Godfrey's finger by Paul Fenninger, S 2/c . . . The girls' matron, Grace Geltner, was given a surprise party by the other matrons. A nice time was had by all. Grace received lovely flowers . . . Johnnie Malaschuk, formerly of paint shop, paid us a visit while home on furlough. He looks better than ever . . . Harry Schegg is home again on a sick leave and let's hope this will be his last time. We all wish him a speedy recovery . . . We're beginning to see the light here in masking—get what I mean? . . . Herb Schmett, otherwise known as "Smitty" to us sent a picture of himself, letting us know he doesn't want to be forgotten. It was taken in Algiers. That boy certainly has traveled . . . The girls certainly are going in for sports. Helen Genovese and Louise Eller have joined our tennis club, and get plenty of exercise now . . . The fellows of the Paint Shop have started their fishing season, and have already acquired a nice suntan . . . Has anybody heard Stella Withowski sing? She has a very pleasant voice . . . Harold Carter has been made Foreman of masking. Lots of luck, Harold . . . Sonnie has resigned from handling this job of reporting on the Fairchild News, and has turned it over to me. I hope to continue where she left off.

Really Doing Their Part

Our Sub-Assembly and Final Assembly Departments in Jamaica have donated over 500 pints of blood since the beginning of the year.



Fastest photographic plane of the U. S. Army is the F-5a, a modified version of the P-38. In this picture an F-5a, which carries five Fairchild aerial cameras in its nose, is shown in the foreground, with the gun-bearing P-38 as its teammate. (Lockheed photo)

O. K. WITH CORRECTIONS

I dread to take a drawing to the man who wants to change things;
Who says, "That's fine, just what I want, but let us rearrange things.
Let's move that lever over, and change that to a wheel,
And add a little gadget to give it more appeal;
And leave out that center bearing, and hide those bolts completely—
If it ain't too darn much trouble, make this drawing over neatly.
Don't clutter up the whole thing with a lot of useless figures;
But please don't leave out any of those most important triggers.
I suggest you try to streamline this part of the base;
And in the meantime, just clean up this other little case.
Those bolts are most unsightly in the place you have them now;
Just leave them out, by changing it just slightly; of course you will know how.
Don't get things mixed up and too darned complicated;
But use all those parts on hand, as was originally slated.
And keep the cost down to a very minimum;
As you know darned well, this is no millenium.
But make it big and strong, and far better than ever;
As you know our slogan is our only lever.
Give our salesmen just a tiny little break
For we are dependent on the orders that they take.
With these few minor changes, everything's O.K.
We are much behind our deadline; please finish it today."

—J. J. LOW, *Chief Engineer, Kay-Brunner Steel Products, Inc.*



THIS LITTLE WE CAN DO

Here on my shelves are books that I
Have once enjoyed, and have put by
To read again; but goodness knows,
I'll never bother their repose.

Unread, these books are good as new,
And books are needed; not a few
But all the books that we can give
To those who fight that we may live.

So, if you send them, some who need
A book will have a book to read;
And it will be, though but pro tem,
A book for him as well as them.

And in those books I'll write my name,
Let those who read know whence they came,
To say "Though little I can do,
Here is a book from me to you."

—RALPH BERGENGREN

Mrs. Phyllis Collins, nee Phyllis Czupkiewicz, has these facts to relate for the record: She was born in the United States of Polish Parentage, has a baptisimal record in French, was married to Irish Bill Collins, U.S.N., on St. Patrick's Day in Tijavana, Mexico, with a marriage license written in Spanish. She has returned to our milling department after a month's honeymoon.



At the Girls' Bowling League dinner held at the Boulevard Tavern, Ernest Robinson, Senior Vice-President and General Manager; J. A. Hewlett, Vice-President; Charles Stock, Recreational Director; Fred Messner, Photographer; and Frank Postorino, Chairman of the Good and Welfare Committee, were conspicuously popular not only because of their customary winning smiles and exertion of their charming personalities, but because they were the only men present! As the song goes (almost), "Now I've got someone to dance with." At left Mr. Hewlett is shown presenting prizes for highest individual score, highest average and highest 3-game series to Champ Frances Wysocki, while Helen Susha, President of the League and Mr. Robinson look on. Right: Winning team was Treo Assembly with Keglers, left to right, back row: Lillian Jaconi, Ruth Miller, Mary Holly and Margaret Falls. Front row, Betty Soderquist and Mr. Robinson, making award of top money to the team. The occasion, marking the league's first season, was one which will long be remembered for its jollity.

THE *Sporting* THINGS WE'VE DONE

TENNIS SHORTS

On an evening back in April the tennis rackets of some thirty-odd members of the newly formed F. C. I. Tennis Club were booming away on the Richmond Hill Tennis Courts and got the Club off to a rather auspicious beginning. Both men and women, both old hands and new at the game and from all departments of Fairchild were represented.

The beginners were especially welcomed and were taken in hand by more experienced players who gave them as much aid and instruction as possible for one session and who made it as interesting as they could. This will continue to be the trend at all future turn-outs.

This Spring, when a good many people's fancies turned to that grand old game, some of the most enthusiastic tennis fans assembled to form a club. At its first meeting on Tuesday, March 27, with a fairly good cross-section of men and women Fairchild employees present, a roster of officers was elected as follows: President, Rudolph Roberts; Vice President, Edith Frank; Treasurer, Grayson Barrows; and Executive Secretary, Vito Lettari.

After this election, several topics were discussed and decided upon. Since the Richmond Hill Courts are conveniently opposite the plant, it was settled that they would be the scene of action of the Club. Reserved courts, reduced rates, instructions for beginners were offered and since it was best to have a definite time for opponents to meet, Tuesday night was selected.

The Club decided to purchase and furnish tennis balls to all members, not only on Tuesday night but at any other time that they might play on the courts. To cover the court charges, defray the cost of the tennis balls, and take care of other Club expenses, definite weekly dues were levied with the approval of all. Because the size of the locker rooms of the tennis court is limited, the consent of the management of Fairchild was obtained for use of plant locker room facilities.

Several other points were discussed and postponed for future consideration. Two of the more important were the possibility of an additional night for playing if the size of membership warrants it, and a tournament for various classes of players at the close of the season.

Tennis is a healthful, relaxing, sociable sport, so if you are interested contact one of the Club officers or come out to one of the playing sessions and participate in the activities. Conscientious beginners are welcome and will be instructed as much as is possible. So gather up your equipment and come out for a volley.

FAIRCHILD TAKES A BOAT RIDE

by PAT GARRETT

June, the month of romance. June, the month of sunny skies and long daylight hours. June, the month when our thoughts turn to green fields, flower-carpeted valleys and smooth-flowing rivers sparkling in the sunlight. — That's the month the "Fairchild friends" have picked for their annual boat ride to Bear Mountain.

Arrangements have been made to get you and your friends on one of the Hudson River Day Line boats to spend a few hours viewing the magnificent scenery of the river that is famous for its grandeur and historical memories.

The Committee has arranged a series of activities for all who are athletically inclined, to be held after the party arrives at Bear Mountain. There will be prizes for the best contestants. For those who do not care for these sports there will be more mild forms of amusement: swimming, boating, croquet, etc.

Tickets are priced very moderately: $1.50 for the round trip. Money in advance for reservations. The arrangements are supervised by Vincent Capicotta as chairman, with a very capable committee assisting him: Al Iorio, in charge of sports, Frank Addeo handling publicity, Manhattan representatives: Jean Fucito, basement, Henry Schroeder, 1st floor, Walter Hapek, Routing, Louise Attanasio, 5th floor, Mary Delfino, 8th floor, Florence Kosensky, 9th floor, Madeline Olive, 10th floor, and Roger Rizzi, office. Representing Jamaica is Rose Cali.

Watch for the announcement of the hour, to be posted. It'll be on June 9th. All are welcome.

TILT BETWEEN NIGHT AND DAY SHIFT INSPECTION BOWLING TEAMS

by JOE LLINAS

Several months ago Julius Minkow on an evening visit passed an innocent remark as to the superlative quality of the day shift Inspection Team. The night shift took it up as a challenge and arrangements were made to fight it out at the Alden Recreation Alleys. The scores speak for themselves:

NIGHT SHIFT INSPECTION

	GAME		
	1st	2nd	3rd
Agnes McCann	116	141	120
Kay Saunders	140	124	159
Virginia Holderby	130	123	129
Ed Kiefer	124	151	155
Joe Llinas	165	162	166
Totals	675	701	729

DAY SHIFT INSPECTION

	GAME		
	1st	2nd	3rd
Carl Maybloom	112	131	168
Joe Ferdinand	114	128	125
Jean Bosakowski	133	105	147
Julius Minkow	114	126	110
John Verado	150	153	124
Totals	623	643	674

Both teams agreed they had a swell time and agreed to a return match on May 4th at the day shift's home alley, Sutphin Recreation Hall.

In the interval Julius "Chief" Minkow must have bought a (1) book on bowling, (2) a whip to keep his team on its toes, and (3) four little "hexes" to put the jinx on the night shift. (4) Last but not least, they brought their own scorekeeper, Helen "Choo-Choo" Susha.

In the first game the day-shift, forgetting about their hexes, were taken by surprise when Kay "Little Bit" Saunders came thru with a 170 game. "Chief" Minkow went to work and rolled up the high game for the evening—213. "Ginny" Holderby and Ed Kiefer came thru with high games of their own and helped along by Joe "Muscles" Ferdinand 114 beauty and Carl Maybloom's 117 honey of a game rang up a "no-sale" for the day shift again.

In the third and final game of the evening Muscles, who was told by "Chiefy" to bowl good enough to win or else—the else being two weeks on nights, came thru with his best game of both series. Jean Bosakowski bowled forty pins over her average and even Helen "Choo-Choo," who came in as a pinch-hitter for J.E.V., managed to better her season total. Carl Maybloom and J. Minkow bowled over their games with Julius winding up with 201.

The night-shift keglers, who were out for a clean-sweep, battled right back and when the smoke cleared away for the sixth straight time they were on top.

The scores for the May 4th games were:

NIGHT SHIFT CHAMPS

	GAME		
	1st	2nd	3rd
"Ginny" Holderby	134	160	153
"Little-Bit" Saunders	170	138	156
Scotty McCann	111	137	148
Ed. Kiefer	137	156	171
Joe Llinas	154	138	184
Totals	705	729	812

DAY SHIFT CHAMPS

	GAME		
	1st	2nd	3rd
Carl Maybloom	121	117	147
"Muscles" Ferdinand	121	114	149
Jean Bosakowski	128	138	163
Julius Minkow	167	213	201
John Verado	140	138	—
Helen "Choo Choo"			106 +26 Spot
Totals	677	720	772

HIGHLIGHTS written by Joe Llinas three weeks before the end of the season. With the season over May 25th the dinner was scheduled for June 9th in the "Spanish Room" at the Triangle Ballroom in Jamaica.

Six teams can end up in first place. Hand Screw which up to a month ago enjoyed a nine-game lead has been cut down to only three games ahead of a battling bunch: Foreman, Hot Chips, Dark-Horse, Can-Do and Big Five.

Biggest source of interest at moment are the individual battles for high average. Particularly close in the girl's section where only 2 pins separate the first five feminine contenders. The girls are acting very ladylike, but they sure are battling hard to get on top and stay on top.

It's anyones guess as to what the final outcome will be and meanwhile it has been a lot of good clean fun.



* * *

This happy sextant at the Girls' Bowling League dinner is composed of, left to right: Rita Killane, Vice-President of the League; Ernest Robinson, Helen Susha, President; J. A. Hewlett, Florence Haase, Treasurer; and Eleanor Friedrich, Secretary.

★ ★ ★

ON THE TRAIL

Compiled by F.C.I. Riding Club Publicity Committee

A canter through beautiful Cunningham Park with the F.C.I. Riding Club is really great sport these summer evenings after work. Members of the Club have been turning out in great numbers since the spring riding season began.

We would like to welcome a new member to the Club, Muriel Bedell of Final Inspection. Good riding to you Muriel.

The Club is planning an all-day picnic in the near future, and we are expecting to make it a real bang-up occasion, one that will be talked about for a long time. The Club also expects to have plenty of other activities throughout the summer months. Join now and get in on the fun that is to come.

SOFTBALL IS HERE AGAIN

by DICK MARZ

FAIRCHILD SOFTBALL LEAGUE

Standing of the Teams—May 16, 1945

	Won	*Lost*
Machine Shop	3	0
Tool Room — Ex.	2	0
General Office	1	1
Sub Ex	0	1
Unit Assembly	0	1
Optical	0	2
Machine Shop Nights	0	2

Machine Shop 1944 winners of the Fairchild League are out to cop their second straight championship. They have beaten Optical 16-2; Unit Assembly 18-2 and Machine Shop Night Shift 22-7.

Sub Ex gave General Office quite a scare in their opening game but finally lost 7-6. At one stage of the game Sub Ex was winning 5 runs to 0.

Tool Room Ex is really surprising the league. These boys have come together and have beaten Machine Shop Night Shift and Optical 11-6 and 16-1.

Weder and Gallagher, the managers of Tool Room Ex, have their boys stepping.

Highlights

Milo Amorosia has hit four home runs in three games.

Ernie Bosco with a little support should prove very tough as the season goes along.

Red Brown's hitting the ball hard for Machine Shop nights.

Optical will get going real soon. Kabzan and Youngling are trying to round the team into shape.

Paul Cicero and his Sub Ex team will give the boys a run for their money.

Stu Kloos, General Office pitcher, likes his game of softball. Works mighty hard on that mound.

The 7 teams are to play a 12-game schedule and the four first teams will play a play-off schedule for the championship.

President Wm. Flaherty has put a lot of work into the league to make it a success.

All games are being played at the Park Dept. Fields at Belt Parkway and Lefferts Blvd. on Wednesday and Friday Evenings at 6:45 P.M.



It took concerted efforts to get this shot of our Gracie in domestic mood: the efforts of the Red Cross in releasing the picture, the mail service in forwarding it from Karachi, India, and the exertion of Grace Phillips, formerly our "reservations" girl in trying to teach Abdul Teg Ali the Western technique of sweeping the floor. Abdul evidently prefers to rely on the method observed for centuries by his caste.

SKIMMING THE SERVICE

by GEORGE GERMAIN

Greetings, you lucky people . . . it doesn't seem as if a month has gone by already—but it has . . . What a silly way to start a column . . . Had to start some way, though . . . Oh, well, here's the latest local dirt . . . Some comments still coming in on last month's column . . . Warren Abbott says Mrs. A. wanted to know what "confident man about town" meant . . . Believe me, Mrs. A., Warren is a good boy . . . 'Member my telling you about Warren Linn coming back from Pensacola on account of his "Uncle" wanting to give him the once-over physically? Well, that same "Uncle" called in Larry Lutz, Rudy Lahdelma and yours truly for the same thing. Results: four hits, no errors, whatever that means . . . Those overseas men from our department, Harry Currey, Ed Brotherhood, "Tex" Helm are traveling.—Harry has gone back to Hawaii; Ed is scheduled to drop in for his refresher, just like Eino. Refresher is a nice word. "Tex" is due back from the Pacific soon. It's be nice to listen to that quiet drawl again . . . Bob Humphries won't like that. (The eyes of Texas are upon me. Gotta step careful-like.) . . . Correction: George Barham's son is *not* a Watermaster 3/c but a Quartermaster 3/c . . . Ugo Petti got back from England on the 15th. Was talkin' to him about things and stuff. He mentioned that the roads in England are a wonderful education for a baseball pitcher who has to learn about curves. Said that Bob Troidl is doing magnificent work as a Fairchild Overseas Representative . . . That's good . . . Say, did you people know that we have some lecturers in our department. (You'll love this.) George Barham has spoken before the Camera Club of the National City Bank downtown and the Camera Club of New York City and wowed both groups . . . George Arnold is to deliver a lecture before the Camera Dealers of New York City in June and from what yours truly has seen of his material it promised to be but good . . . George Germain has spoken to groups here in the city, in Scranton and Worcester and by the time you read this will have talked to a group in R. G. Sanders' home town. Early in July he will speak in Lancaster . . . Glad to hear Mrs. Frank Emmerich is home again from the hospital. When you read those words they sound very flat and prosaic, but we were all sincerely rooting for her, Frank. Flash: George Pollard just got back from Italy.

SPIRALS

by AMELIA

A little on the military side: Jack McCann, who a short time back received the Purple Heart, is now sporting 3 "upside down" VVV on his uniform, and his buddies say"Hi-Sarge" when they to talk him . . . *Proud as punch!* is Kay Saunders. Seems as if Jim went and shot the first sergeant — Now Jim is "Top kick" of his company. If something drastic happens to "Mac" someday and Mrs. Saunders' boy becomes General, it would appear more than coincidental . . . Corporal Johnny Popp writes from France on Easter Sunday to let your reporter know he enjoys receiving the *Fairchild News.* "Everytime I receive the *Fairchild News* it brings back the old place to me." France reminds him of Long Island, with its flat countryside and many small farms and as for Paris on his first pass, "It would take me all night to tell you about Paris." But he still would give it all up for a week-end at Cunningham Park with his gal Charlotte. Biggest kick I ever hope to get will be to put in a write-up about John being home on a furlough . . . *On the Navy side:* John Galizia, former first-class operator on the night shift Drill Press, is running true to form. He is now Seaman First Class in Uncle Sam's Navy. To judge by his picture in last month's *News* the salt sea air sure agrees with him . . . *On the civilian side* though not for long is Patrick Reilly, who is slated for the "Big League" on May 15th. It was news to me and perhaps will be to others that Pat became a proud papa to Michael Patrick Reilly some nine weeks ago . . . We extend welcomes — (a little late I must confess), to Ella Quirk, Dorothy Marshall, Lucy Matthews, Vivian Maloney, Hannah Streibel, Anna Hannett, Helen Maskowicz and Robert Prezzano (brother of Nick, our set-up man). Nick and Bob who walk alike, talk alike and even have their hair cut by the same tonsorial artist, have everybody on the second floor doing a double-take when they pass by . . . *Welcome home* to little Helen Little who returns to our Bench Lathe Dept. after a sojourn in the Manhattan plant . . . *Remember* that old favorite "Wishing"? Everytime that Marjorie Axtell lights up a cigarette in St. Louis, she will remember the crowd at Fairchild for one of her nicest going away gifts was a musical cigarette box which plays that number. The box was stocked with cigarettes also, which proves how well she was liked . . . While on the subject of cigarettes—a note was left on my bench saying that Betty Jacobia and Gracie Dunn were recently seen smoking pipes. But not for long. something to do with the sudden change of their complexion from pink to green . . . Marion Hagarty doing a little vest-button-popping as she talked about Mary Ann, her daughter who had gone on her first "formal" with best beau Bill. It was supper at the Waldorf Astoria and then to Leon & Eddie's till the wee hours. This was B.C. of course. Mary Ann wore a white dress trimmed with black velvet. She had a gardenia corsage and topped off the whole ensemble with a black mantilla from Cuba. Bill is a graduate from Tec. and is earmarked for the Marines . . . Gene "Who-stole-my-apple?" Finn has given up his customary nibble on his favorite fruit ever since he ran into more trouble than Adam did in the Garden of Eden . . . *Things I'd like to know:* Why did E. Edsall bring the doll for Margaret Unser. Why did E. E. bring in the bottle of bubble-bath for the Inspection girls? Why does the song "For All We Know" bring back memories to a certain "mud-gutter" blonde? Where did Kay Conklin get that very interesting theory on why men lose their hair, and isn't she sorry she brought up the subject in the first place? . . . Miss McManus of the Red Cross writes in to thank us once again for our contribution to the blood bank. The last group included G. Baranowski, B. Cowley, K. Conklin, B. Crayfourd, E. Finn, A. Vaskis, T. Tortorelli, J. La Sala and M. Sirko who ran up the total pints of blood donated by the night-shift to well over the 100 mark. We can all be a little proud of that . . . *Late Bulletin:* Hollis streets have been declared "out of bounds" for adults and children; K. Saunders is learning to drive a car . . . *Late Bulletin:* Dorothy Brinher is now known as Dorothy Marayati. It's all too true; this delicious blonde addition to our Drill Press personnel went and married another of our employees in the Tool Room. Good luck to you both from all of us.

Future member of the F.C.I. Riding Club? This cute youngster is Bennett Yahya, who father, Joseph, works in Unit Assembly.





Herb Meade sent back to us this good shot of himself from Burma along with a most amusingly exaggerated advertisement contained in a Calcutta newspaper about, "You can be young in 24 hours," etc. It says in part, "The actors and actresses of Hollywood are active, young looking and charming by the use of this medicine even at an advanced age of 80 and 90 years and they are enthusiastically working on the stages." And so on and on . . . Herb, we want to recognize you when you come back, so please don't go back too many years . . .

A CHALLENGE

How many souls will scan the peaceful skies
How many workers rest with thankful sighs
How many hearts will bigger, better be,
When comes the prayerful day of Victory?
How many women face with conscience clear
The men they love and say, "I've been sincere,"
How many souls when Victory is won
Can backward look, and say, "My job's well done"?

—JUDY LITTELL
ELEC. INSPECTION
MANHATTAN PLANT

ENGINEERINGS

by VIRGINIA WEISNER

Mr. Roters tops the baby scales this month with his new twins—the nicest kind too—a boy and a girl . . . Max Rosenberg and Reggie White also have bouncing boys to beam about . . . Sgt. Lennie Wilson—back at his Fairchild desk after a siege in Fortress Europe—is getting the old grin in practice . . . Hazel Rybak is much better, thanks. She wasn't interested in that appendix anyway. Lou Hecht (also of Mr. Hale's lab) was hospitalized too but is o.k. now . . . This month we lost Ed Stevens to the Army; Judson Bennett to the Navy. Judson clinched the deal before he left by getting engaged to Edith Wean of our Milling Department . . . Biggest social event of late was the marriage of Lillian Ott and Frank Donovan. We haven't seen Lillian, but Frank is typically blissful . . . Elizabeth Kelly has been swamped with fan mail since her publicity writeups. Evidently this celebrity stuff pays . . . Frank Willey and Gordon Nash were cheated out of their V-E holiday. They spent it at Wright Field . . . Madeleine Reehil will probably be married when her "one and only" arrives from Hawaii —and it won't be long now! . . . Gloria Allen left to be married to her Navy man, and has gone to California . . . Francis McDonald Doyer writes that she is back in New York and has added a baby boy to the baby girl.

SCHEDULING DEPARTMENT

by MADELINE HECKER

Jane Vath left our department in April and is now taking life easy in the sun. She was really thrilled when she opened her gifts which included a beautiful housecoat and flowers and other things. We surprised her further with a dinner in her honor at the Harmony Restaurant. There were fifteen girls present in their spring finery. Jane has asked me to thank her friends for their thoughfulness . . . Ed Keyes has deserted softball this year and all his efforts are concentrated on the Tennis Club. Herb Hartmann has also joined the club for the Thursday night sessions . . . Now that the bowling season is over, Edna Brauchle also is devoting her time to the Tennis Club. Edna was a high scorer on the bowling team and we will be watching her. She definitely is the girl athlete of the department . . . Trying to rush the season a bit, the girls of the department went on a picnic to Alley Pond and got caught in a terrific rain storm but this didn't dampen our spirits any. We had a swell time . . . Carl Geiger has been spending his weekends on top of an extension ladder painting his home.

Gerald M. Coughlan shown in Rome a few months ago, from where he wrote, "I have completed 18 months overseas and during that time I've seen many of the products of Fairchild in service." He was formerly of Sub Assembly.





Ralph Leutz, with a Coast Guard rating F/C 3 C/L, remembers well the days when he worked in our order department, and led a staid civilian life with his daughter and wife. Ralph's father, Otto, is supervisor of Planning.

OPTIC TOPICS

by VIRGINIA BERG

Though the bowling season is over and we didn't win, we must make mention of the fact that two of the men on the winning team (Final Assembly) work in our department. Thanks to John (Goulash) Gyorik and Larry Hollings we can share in the victory. The men's bowling league dinner was a great success. The women's league bowling dinner was held at the Boulevard Tavern and the girls' team of the Polishing and Grinding Rooms attended. A good time was had by all even if some did have a "steak" dinner later. Still another bowling dinner was held at the Ridgewood Hofbrau by the "Hot-Foots" of Optical Assembly . . . Best of luck to Anna Braun who was married to Pfc. Willard Larson on April 7th . . . John Wisiecki was presented with another baby daughter on March 27th and Christine Dumser, formerly of Sextants is the proud mother of baby girl born April 20th. Best wishes to them both . . . Sophie Levi, foreman's clerk, was honored a pre-nuptial luncheon and shower at the Mohawk on April 19th.. She was presented with a corsage, a lovely hostess dish, a hat-box and a half century note. Sophie was married on April 22nd to Francis Fezza S 1/c U.S.N. and left for California for her honeymoon and future residence . . . Milton Johnson M.M. 3/c paid us a fleeting visit before returning to San Diego, Cal. He sure looked fine and everyone was glad to see him again . . . The "Sextant" girls went to the city to see the play, "Kiss and Tell." All agreed it was really something! . . . The cigarette collection, taken weekly by Agnes Fox, Sgt. in the American Women's Hospitals Reserve Corps for the boys at the St. Albans Hospital, is still going strong. No one could begrudge 10c weekly for those disabled boys . . . First sign of summer — Silvering Room girls pay first visit to Coney Island on May 9th . . . A few of the girls of the Polishing Room attended a christening at the home of Marie Sauerwein. Marie is the proud grandmother of a baby girl and just had to show that baby off . . . Josie Malashchuk, formerly of "Bubbles" is the happy mother of a baby son, Michael, born May 3rd. Papa Nick, formerly of Paint Shop, is now in Germany. Happy days to Mr. and Mrs. . . . Special note — Nina Jensen gave her 8th pint of blood to the Red Cross Blood Bank on June 1st. Have you donated 1 pint yet? . . . To hasten that V-J Day, help the 7th War Loan Drive and buy that bond now!

ELECTRICAL S-PARKS

by WILLIAM PATTERSON

S/Sgt. Joe Lamberti, who has just returned from more than fifteen months overseas, has received many awards for his tremendous contributions toward our final victory in the Pacific. He received the Purple Heart more than a year ago. Since, he has received the Air Medal and two Oak Leaf Clusters, Asiatic and Pacific ribbons with two bronze stars, Philippine Liberation and a bronze star. He is recommended for the Distinguished Flying Cross, which is expected to be presented to him while he is in Atlantic City, recuperating. He also received a letter of commendation from General Crabb.

Sgt. Lamberti told us stories packed with thrills and excitement, especially interesting to us because they were of our products. I will attempt to relay one of the Sgt's. stories to my readers. As part of a photographing and mapping squad, Joe was leaving Luzon when his squad spotted a Jap convoy of twenty-six ships on their way to Leyte. Our men immediately radioed the Fifth Bomber Command. At 19,000 feet they took pictures with Fairchild K-17 cameras. They approached the target to take more pictures, causing the Jap convoy to split up. Later as they were going to photograph air strips on Panay, they spotted their second convoy. It consisted of eight ships—three battle ships, three destroyers and two cruisers. They were thirty miles west of Tolong off Negros Island, headed toward Leyte. Our hero's plane being all alone, went down to 14,000 feet to get a better photographic view of the convoy. Doing so, they flashed the Japs their recognition signal. The Japs answered back with flak. No one was injured in these engagements because our boys put their nose to the sky and high-tailed for home. S/Sgt. Lamberti has been in over 44 missions, with more than 350 combat hours to his credit . . . Pfc. Al Maier writes that he met Bob Troidl, Fairchild representative, while in France. Al has moved on to Germany now with his camera repair outfit. He boasts of seeing plenty of Fairchild products and is proud to say they have top rating with the GI's . . . Received a letter from Cpl. Frank Lauria. He is taking France by storm, especially Paris. We'll see you soon, Frankie. It's past V-E Day now . . . Pfc. Tom Lekas was a surprised G.I. when he went out for a little fun in Belgium and found that the girls danced like Americans. They could Rumba better than he. Tommy will be hepped to the latest steps when he returns to the good old U.S.A. . . .April 27th was Ethel Williams' 14th Wedding Anniversary. She celebrated it with a trip to New Hampshire to visit her soldier-husband. Flo Coyle, her best pal, accompanied her . . . Celia Puk received three dozen roses for her birthday, two dozen from boy friends overseas who remembered the occasion.

William J. Gleason, F 2/c, Naval Air Station, formerly foreman of our Grinding Department, and Eugene Bartoldus, S 1/c, formerly of our Milling Department, met out in California while working on Fairchild equipment there.



Battle BULLETINS

We believe the reprint of the letter from the parents of one of our boys and also the reprint of recent commendations received by him as an individual and by his Division will hold a personal interest for all of us as well as an historical one:

April 18, 1945

Dear Sir:

You have been most kind and generous to my son who left your employ to join our armed forces. He often reminds us at home that he receives gifts and some cash.

So we, his parents, think you would like to know how some of your boys are doing at the fronts.

Enclosed you will find a copy of the Citation which was awarded to him. We also wish to express our thanks and it sure keeps up their morale to know they are not forgotten.

He was transferred to the infantry last December 14, 1944 and he is now a S/Sgt. He was also wounded as he sent us home the purple heart, but Thank God he is back in action with 26th Infantry division. He left your employ about 2 years last January. His new address is

S/Sgt. Philip Sarro #12187122
Co. G., 328th Infantry
A. P. O. 26
Care Postmaster
New York, New York

Thanking you for being so kind as to let some of his friends read of his achievement, I remain

Yours truly
Mr. and Mrs. Sarro

* * *

HEADQUARTERS
26th INFANTRY DIVISION
APO 26, U. S. ARMY

2 February 1945

Subject: Award of Bronze Star Medal

To: Technician Fourth Grade Philip J. Sarro, 12187122, Company G., 328th Infantry

CITATION

Technician Fourth Grade Philip J. Sarro, 12187122, Infantry Company G., 328 Infantry. United States Army. For heroic achievement in connection with military operations against an armed enemy near Eschdorf, Luxembourg, on 25 December 1944. During the attack against the enemy in Eschdorf, on 25 December 1944, Companies E and F were held up by strong enemy fire. Technician Fourth Grade Sarro, a Company G Rifleman, volunteered to join a group which was organized to ride tanks into the town in attempt to relieve the held up companies. Mounted on one of the three vehicles used in the assault, Technician Fourth Grade Sarro rode boldly to a crest of a hill and toward the town, while the tanks' guns maintained a continuous offensive fire. The attack against the enemy progressed swiftly until the 75mm gun on the leading tank jammed. He and the others in the group then leaped from the tanks and attempted to extricate the misfired shell from the breech of the jammed gun. When numerically superior hostile forces appeared at the edge of the town, the tanks withdrew. Technician Fourth Grade Sarro and the others in the group thereupon maintained a rear guard action while seeking alternate positions for themselves. Before reaching the reverse slope by skillful maneuvering, he and the others in the group inflicted a large number of casualties upon the enemy which relieved some of the hostile force's pressure being brought against the companies in the town. His courage, initiative and unusual devotion to duty reflect the highest credit upon Technician Fourth Grade Sarro and the armed forces of the United States.

By command of Major General Paul:
Signed: *C. A. Hileman*
Signed: Lt. Col. AGD
Signed: Adjutant General

* * *

HEADQUARTERS
26th INFANTRY DIVISION
APO 26, U. S. ARMY

APO 26, U. S. ARMY
1 February 1945

SUBJECT: Commendation

TO: All Officers and Enlisted Men

I desire to express to each member of this command my sincere appreciation for the aggressive and courageous action which merited the enclosed commendation for our Army and Corps Commanders.

When you initially attacked for seven days and nights without halting for rest, you met and defeated more than twice your own number. Your advance required the enemy to turn fresh divisions against you, and you in turn hacked them to pieces as you ruthlessly cut your way deep into the flank at the "Bulge." Your feats of daring and endurance in the sub-freezing weather and snow-clad mountains and gorges of Luxembourg are legion; your contribution to the relief of Bastogne was immeasurable. It was particularly fitting that the elimination of the "Bulge" should find the Yankee Division seizing and holding firmly on the same line held by our own forces prior to the breakthrough.

I am proud of this feat by you as well as those performed earlier. We shall advance on Berlin together.

Signed: *W. S. PAUL*
Major General, U. S. Army
Commanding

1 Incl.
Ltr., Hq. III Corps, 25 Jan 45

* * *

HEADQUARTERS III CORPS
Office of the Commanding General
A.P.O. 303, U. S. ARMY
200.6 GNNCG

25 January 1945

SUBJECT: Commendation

TO: Commanding General, 26th Infantry Division, A.P.O. 26, U. S. ARMY

1. The following letter from the Army Commander is quoted to all III Corps units which participated in the relief of Bastogne:

HEADQUARTERS
THIRD UNITED STATES ARMY
Office of the Commanding General
A.P.O. 403

20 January 1945

SUBJECT:: Commendation

TO: Commanding General, Officers and Men of the III Corps, A.P.O. 303, U. S. Army.

1. The speed with which the III Corps assembled, and the energy, skill and persistency with which it pressed its attack for the relief of Bastogne, constitute a very noteworthy feat of arms.

2. You and the officers and men of your Command are hereby highly commended for a superior performance.

3. You will apprise all units concerned of the contents of this letter.

G. S. PATTON, JR.
Lieut. General, U. S. Army
Commanding

2. The Corps Commander is gratified to transmit the Army Commander's commendation to the units of the Corps troops and divisions participating in the relief of Bastogne. The uncertainty of the enemy situation, the stubborn enemy resistance, the disregard for losses and the team work which all units displayed in gaining the goal of relieving Bastogne were the contributing factors that made the operations such an outstanding victory, and will be highly valued in the history of each unit.

3. The Corps Commander adds his commendation for the performance of this task well done.

4. The contents of this letter will be made known to all officers and enlisted men of your organization at the earliest practicable time.

JOHN MILIKIN
Major General, U. S. Army
Commanding

Fairchild ALL-STARS









These contributors to V-E Day, formerly our co-workers, recently dropped into our Jamaica plant. Top row, left to right: Warren Mahland, U.S.N., M.M. 2/c, who was in our Milling Dept.; Cpl. Ted Patocka, Tool Room; S/Sgt. Joseph P. Lamberti, Elec. Assy. Middle row: Pfc. Philip E. Morris, Final Assy.; Anthony J. Pace, U.S.N., S 2/c, Mail Room. Bottom row: Gloria M. Heymann, Cadet Nurse, Inspection; Pfc. Edward I. Mehrlust, Engineering, and Pfc. Fred Karppi, Tool Room.









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MODERN LANGUAGE
ELECTRONICS
RADIO BROADCASTING TECHNIQUE
EDUCATIONAL EXCHANGE RECORDS
PUBLIC ADDRESS PLAYBACK
BROADCAST RECORDING
CURRENT HISTORY
SCRIPT WRITING
DRAMA

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IS THE FIRST ATTRIBUTE OF A GOOD CRITIC" Lowell

Believe slowly in buying sound equipment.

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Know definitely whether you're buying 60% to 70% of perfection in sound reproduction — to secure a low initial price tag. Or whether you're buying full naturalness. The initial cost will be higher. But the *per-year* outlay will be lower for the easier-to-live-with quality and the far longer life of the Fairchild Portable Recorder.

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SOUND EQUIPMENT

Fairchild **CAMERA AND INSTRUMENT CORPORATION**

Appeared in Nations Schools, March — School Executive, March

OCCUPATIONS - AVIATION

See Also OCCUPATIONS - TRANSPORTATION

WOMEN IN SHOP WORK IN AVIATION

The Aviation News Committee survey revealed that the following airplane and engine plants are among those employing women shop workers at present:

Aeronca	Fairchild	Solar
Beech	Fleetwings	Taylorcraft
Boeing	Hayes	Vultee
Cessna	Howard	United Aircraft
Culver	Lycoming	Wright Aeronautical
Curtiss	North American	
Douglas	Porterfield	

The Aviation News Committee announced "more and more women are now proving that feminine dexterity can perform faster and more efficiently certain tasks until recently reserved for male workers . . . The Sperry Gyroscope Company is a pioneer in the employment of women in large numbers."

-- New Haven, Conn. Register, June 15, 1941

DIVISION OF
PRESS INTELLIGENCE
1526 14th St., N. W.
NO. 6
SYMBOL
Christian Sc. Monitor
Boston, Mass. (I)
SEP 18 1942
DATE

Springfield Young Woman Has Unique Place in Aviation

When the United States Government launched its civilian pilot training program in 1939, one of the early applicants for flying instruction was Isabel Fenton of Springfield.

She promptly found herself the only girl in a class of 59 boys. But she asked no advantage, and needed none.

Miss Fenton was the first one in the class to solo in advanced acrobatics. In fact, she took to the air as if wings belonged to her.

Today she is the only woman teacher of aeronautics in Springfield, where she conducts classes under the Civil Aeronautics Authority at American International College and the Springfield Airport.

Miss Fenton has the sort of direct hazel eyes that one would expect to look out unafraid upon the clouds, the sort of shiny hair that would glint red in the sun a thousand feet up, and the kind of smile that would "go over big" anywhere.

Teaching eight or nine courses a day in plane identification, the theory of flight, navigation and other branches of aeronautics is "duck's soup" to this competent young woman who is the holder of both a private and a commercial flier's license.

"I've learned a lot myself since I've been teaching," she says. "When you start to explain things, you have to figure them out for yourself and you really get to know them in words."

Miss Fenton is keen about acrobatic flying, which is the kind of stuff they're teaching the fighter pilots now. "It develops great confidence in a person," she explains, "when he knows he can do anything with his ship."

This air-minded young woman claims that practically everyone can learn to fly—"at least 75 per cent of the people," she insists.

"Flying is all rhythm," was the way she put it, adding that she thinks when Negroes learn to fly they will out-fly anyone because the Negro race is noted for its fine sense of rhythm and timing.

After obtaining her license in 1940, Miss Fenton went to work for a private airplane company in New York and did some flying for the board of patrol in connection with the immigration service.

Isabel is the daughter of Mr. and Mrs. C. I. Fenton, and her mother was the first woman automobile dealer in the United States, going into the business in 1911. She sold out when her business was at its peak in 1941, and was one of the few dealers in the country to "get out with a whole skin" before cars were "frozen" by the Government.

Miss Fenton's father is also in the automobile business in Westfield, just outside of Springfield. She has a brother in the Army at Fort Devens, and a brother-in-law with the Army in Iceland.

Palladium Item (1)
Richmond, Ind. October 25, 1942.

MISS WETHERILL HEADS SECTION OF 99's, NATIONAL FLYING GROUP

Wayne county's first woman flier, Miss Helen Wetherill, received another honor Saturday.

Miss Wetherill who has served for two years as state chairman of the 99's an organization of women aviatrices, was notified Satusray she had been elected a governor of the group. She will be in charge of all club activities in the north central section which includes Illinois, Indiana, Ohio, Michigan, Kentucky, Wisconsin, Minnesota, Iowa, and Missouri. At the present time there are over 40 members in the State of Indiana.

The club was organized in 1931 by 99 women pilots in the United States. The only qualification for membership is that each woman have a private flying license or better.

Besides her activities in the 99's she is also actively identified with the local Civil Air Patrol of which she is training and operating officer. She recently received her commission as second lieutenant.

Christian Science Monitor
Boston, Mass.
Sept. 18, 1942.

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AIR LINES HIRING MORE WOMEN

More young women are being employed by air lines in their information, reservation and ticketing departments because of changing conditions brought about in part by the selective service act, which is taking many young men away, according to Evans K. Smith, president of the Air Traffic School, 41 East Forty-Second Street.

From New York Herald Tribune

April 20, 1941

(COPY)

Washington Daily News
August 22, 1942.

SOMETIMES THEY'RE BETTER

WOMEN FLIERS AS GOOD AS MEN, CHIEF INSISTS

Maj. Earl Johnson, commanding officer of 2500 American women pilots, believes that women are just as good as men on most flying jobs and sometimes better.

The women pilots -- who comprise majority of the approximately 3500 registered in the country -- are members of the Civil Air Patrol, organized a week before Pearl Harbor to work for the Army and Navy. They form about one-tenth of the CAP's total enrollment.

A veteran flier himself, Johnson said there are "more good pilots in a group of 100 women (in CAP) than in a similar group of men."

Women Work Harder

"The reasons are that they work harder, are more serious about their jobs, and carry thru better on details," he said.

The only limitation placed on women in CAP is an order against flying in coastal regions, considered combat zones. Otherwise, they fly alongside the men in delivering materials and planes to the Army and ferrying passengers on official business.

About half the women are non-pilots who do office and communication work. Some are instructors in navigation, communications, drill, military courtesy, first aid and gas protection.

The pilots fly thru blackouts. They also steer planes over practice ranges for Army anti-aircraft gunners to train their shooting eyes -- with blank ammunition.

Johnson cited several instances in which women have distinguished themselves as CAP members.

They Aid Flood Areas

They helped ferry food, drugs and first aid equipment to flood-stricken areas in Missouri and Oklahoma last spring.

In Boston, the Massachusetts wing commander gave a woman pilot the job of ferrying Civilian Defense Director Landis to Provincetown, Mass. on an inspection trip. She had to land on a poorly-kept field, but the trip went off smoothly.

Most of the CAP's women are in mixed squadrons, but there are three all-women groups in Cleveland, Atlanta and St. Louis.

EMPLOYMENT OF WOMEN AT HEADQUARTERS AIRPORTS February 1943

Upon revisiting the T. W. A. offices in Kansas City last November Miss Wolfe found the number and proportion of women had increased greatly since her visit in 1940. At the earlier date in addition to the usual clerical jobs women reservation clerks were reported. At the later date they were also ticket sellers. But in the Operations Division their employment was a complete innovation as flight control clerks, dispatch clerks, weight and balance clerks, radio operators, meteorologists, instrument mechanics and spark plug cleaners.

Of her very recent inspection of American Airlines at La Guardia Field, Miss Gooden also reports upon these new jobs for women. Great expansion has taken place in American Airlines also. From being 19.1 percent of the force two years ago women now are 28.3 percent of the force and it was suggested they may become 50 percent. They predominate in the clerical jobs and American Airlines first introduced women in the reservation division seven years ago and then to the ticket counters.

In American Airlines there is an automatic progression in wages based on length of service. Junior mechanics whether men or women are paid 50 cents an hour while in training and start on the job at 65 cents. By the end of the first year the rate is 75 cents. Only 1 woman is a qualified aviation mechanic paid at a higher rate than junior mechanics.

Work hours at La Guardia Field are staggered so that a full force of employees covers the peak loads while there is only a skeleton force on duty some of the 24 hours. Night shifts on which women are employed rotate every month but day and swing shifts change every two weeks.

The following are comments from the report on American Airlines:

Weight control clerks must be good at lightning speed arithmetic and able to work accurately under pressure. Last minute weight calculations before a plane takes off determine how much cargo, mail, gasoline, and the number of passengers can be taken on for that particular flight.

From the control tower the plane is directed to a safe landing on the field below or given clearance to take off. Flying experience, knowledge of radio, and meterology are the best qualifications for this work. The top jobs are among the most important in the flying business. Women are largely minor assistants so far.

Meteorologist must have the necessary technical college training required by the Civil Aeronautics Commission.

A Link Trainer Instructor can learn on the job the routine of giving flight problem instructions and checking the results. The instructor gives the pilot in the cockpit of the miniature "plane" a flight problem, which must be worked out by instrument ("blind") flying; the trainer records the motions of the "plane"; the instructor and the pilot check the recorded results.

Flight Service included handling baggage, mail, and cargo; loading and refueling and unloading the plane; young boys have alays been used on these jobs. The amount of weight lifting requires some assistance from men. It has been difficult to find girls strong enough for the work. They must be high school graduates, if possible, between 18 and 30 years of age, about 5' 5" tall, weigh at least 130 pounds, having a driving permit; and they must pass a rigid physical examination which includes special attention to back strain. The girls wear coveralls.

Dispatching is actually the outdoor part of the operations division, the in-door part being weight control or computing the load. The uniformed attendant out on the field who signals the plane to its exact spot on the landing field and performs similar operations for the take-off is called the Ramp Agent. Girls have been on these jobs a comparatively short time.

Under war conditions the four year aviation mechanic's apprentice system has broken down. Few women hold mechanics' licenses. Women on mechanical jobs are very satisfactory on overhaul work where planes are completely dismantled, cleaned, repaired, and rebuilt inside the shop. The jobs are very similar to those in aircraft engine, assembly, radio and instrument plants.

Like a train a plane is thoroughly scrubbed, cleaned and ploished regularly inside and out. The women are said to be doing a better cleaning job than the boys whom they are replacing.

Stewardesses were the first women hired by the airlines and remain the only women crew members. Until February 1942 they had to be graduate nurses. Stewardesses must pass the same physical examination as pilots and other crew members. Only 22 out of almost 200 American Airlines stewardesses have had more than 5 years of service. Pay is the same as for other technical and semiprofessional jobs ($125, etc.) except that special living allowances are made for expenses away from the base station. There is almost no opportunity for promotion. Stewardesses buy their winter uniforms which cost $80. The company furnishes light weight summer uniforms.

FURTHER USE OF WOMEN

There are very few jobs women could not do in airline transportation provided they had the training and experience, not excepting all of the jobs of the flight crew and the control tower. On these more specialized and most desirable jobs opportunities for experience are even more limited than for training.

Where heavy lifting is involved, as in Fleet Service and on some of the scaffolding repair work on planes, women cannot be used much more than they are now.

(Copy)
Springfield, Mass. Republican, January 7, 1943.

ARMY, NAVY TO ENGAGE WOMEN AS INSTRUCTORS

Teachers Sought for Ground Crews of Air Forces in Various Specialties

Barriers to one more field for women were broken down yesterday, when it was announced that women as well as men will be considered for posts as air-force instructors at army and navy air fields throughout the country.

Women who have had one year of study at a teacher's college or other college or university are eligible for appointment to the position as instructors for ground crews in the air forces of the nation. Women with some teaching experience are wanted, George F. Harding, manager of the United States employment service announced.

Any man or woman 20 years of age and over, with these educational qualifications, is eligible for the appointments. Men with practical experience as engine mechanics, sheet-metal workers, welders, machinists, photographers, camera repair men, or in any branch of radio, are eligible if they have completed high school. Civilians with airplane mechanics certificates or ground instructor certificates of the Civil Aeronautics authority are also eligible for immediate appointment as instructors.

Those accepted will receive three to six months of training at an army or navy training station in Illinois, paid at the rate of $1620 a year. On appointment as civilian instructors they will receive $2000 a year and will be transported to their posts at Government expense.

Those accepted are eligible for promotion to civilian jobs paying from $2600 to $4600 a year, Harding said. Further information is available at the USES office on Dwight Street.

Excerpt taken - Christian Science Monitor - Jan. 22, 1943

ARMY FLIERS HAVE WOMEN INSTRUCTORS IN RADIO - DO GOOD WORK UNDER THEM

By. Dorothea Kahn

Chicago:

Some of these women used to be public school teachers. Some worked in offices. One, at least, was a concert musician, and another a journalist. Now they are all filling unusual positions as civilian instructors in radio to men in the U. S. Army Air Forces here.

Before the war it was difficult indeed for any woman to get a teaching position in a men's technological school. You could look in vain for a feminine name on faculty lists of such institutions. But precedent didn't deter the Army from urging women to apply for posts as teachers of the soldiers who must learn to transmit and receive radio code messages and handle equipment. The Army actually went out of its way to find women for this work, because it wanted instructors who wouldn't be called away by the draft, as men instructors may be. That's why it proceeded to put to work at once a few women who came with advanced technical knowledge, and sent other likely applicants with no knowledge of radio off to St. Louis University for 12 weeks of intensive training as instructors.

No question About It.

Has the plan worked? Can women teach this subject as well as men? The answer, judging by the attitude of officers in the school here, is an emphatic yes. The officers accept the women teachers as a matter of course. In fact, these experienced Army men seem surprised if you raise the question of whether women are as capable as men in these technical posts.

"It isn't a question of sex," they say. "A soldier learns just as well from a woman as from a man if she knows her subject, and our women teachers do.

Discipline? No, the women have no special problems. Do the soldiers really like women instructors? Why, yes - after all, they had women teachers in high school. These soldiers are here to learn, and if a woman can teach them, what difference does it make to them whether it is a masculine or a feminine instructor?

But do women master technical subjects such as radio as well as men? This question apparently seemed just a little foolish to M. C. Dean, engineer on leave from a large electric company to recruit both men and women for training as teachers in this school. Experience he has had in this office, he said, has shown him that almost any woman with a good general education, common sense, and the ability to teach can master enough knowledge of radio theory and practice in 12 weeks' intensive study to be a good teacher.

About 200 women are now in training in this school. Graduates fill teaching posts not only in Chicago units but in other Army Air Forces Schools. So far, more men have been trained than women, but the proportion is likely to be reversed as time goes on, Mr. Dean thinks.

In one of the first groups completing the course at St. Louis was Mrs. Milan V. Ayres, graduate of Massachusetts Institute of Technology, class of 1898, and author of "The Mathematics of Installments."

Another woman with valuable experience, now completing her St. Louis training, is Mrs. A. F. Thompson. A newspaper woman, she married an engineer and during World War I drove a tractor on her husband's farm. Later, when commercial radio opened up a new field, she got into it, and did all sorts of jobs around the studio. Finally she came to specialize in script writing, and recently has acted a part in her own serial.

But many of the prospective teachers have no special radio background. More typical of the group is Miss Esther Wisehart, who came from an elementary school classroom, where she taught for four years. Miss Wisehart found the St. Louis course stiff but excellent. She told interviewers proudly that now she can explain such points as "why the interelectrode capacitance causes inductive feed-back to the grid of the pentode" without blinking an eye.

Wide Pay Range

When the women get their diplomas, they start teaching as junior instructors. Pay begins at $1260 a year while the student is being trained, rises to $2,000 when she starts teaching, and can go up as high as $4,600 a year, although this is exceptional. Average is said to be about $2,600. Pay for men and women instructors is the same.

Mr. Dean, who recommends applicants for training, says he regards age as no barrier to success in the work. He considers women from 20 to 60 years of age as likely applicants. He believes women who take this training will find opportunities to continue in their new vocation after the war, for he anticipates great commercial expansion in electronics. If women failed to find such opportunities in the past, he says, it is largely because they did not train for them and go out after them. NBC did not hesitate to hire a woman engineer, he said, even before the war. "Why should opportunities in this field not increase?" he demands.

WOMEN WILL FILL AIRLINE VACANCIES

They Are Slated to Replace Men Called to Duty From Several Big Companies

MEN OVER 35 ARE TAKEN

N.Y. Times

Some Concerns Already Hiring Them and Others Who Have Dependents to Carry On

9-24-40

Some of the nation's major airlines probably will replace with women many young men employes called into Army service, while others have already begun to employ men over the draft age or who have dependents, to "stabilize" employment in the industry, it was learned here yesterday.

Attributing the change in policy partly to the Selective Service Act and partly to the company's wish to "prevent a continued flow of ambitious young men" in search for promotion, a spokesman for one line explained that it was finding it easy to get young, intelligent women who can handle traffic and sales problems efficiently.

American Airlines, which has been steadily increasing the number of its employes during the last two or three years, has for the first time included young women in its regular classes in traffic and passenger problems, the proportion being 70 per cent men and 30 per cent women. While the present proportion of women employes of 3,800 on the payroll is about 12 per cent, officials for the company said the percentage of women employed could well go to almost double that number with no loss in efficiency.

While it was admitted that there is a maximum point for employment of women, officials said they were going to fill all vacancies with women or with men who are not likely to be called as trainees for the Army. While all such employes will be taken on with the understanding that their jobs are only temporary, they are receiving assurance that at the present rate of expansion there is little likelihood of losing their jobs when the trainees return.

Although it was rumored recently that the trend in the employment of more young women was also partly due to the airlines' intention of getting employes who are more likely to remain satisfied at their present salaries, American Airlines officials said that despite the probability that the ratio of women to men emloyes would continue to increase, the "saturation" point would soon be reached. If the company were to concentrate its employment efforts to obtaining young women, there would soon be a dangerous shortage of trained men in other departments, it was said.

United Air Lines reported that it might begin hiring young women within the next few months, but that at the present time, "just to be on the safe side," it was going to take on men who are either over the draft age limit or who have dependents. Declaring that no definite policy had been established yet, officials explained it was still possible that all employes would be listed as being in a vital industry and thus exempted from conscription now.

Spokesmen for TWA announced unofficially that while there was no trend yet to the employment of women, it was possible that only older men would be hired to take the place of trainees called to service.

COPY

Returned to Miss Newcomb's Room 1320 (? E.W.

Transcontinental and Western Air Lines 1943 or 1944

Main Office - Kansas City, Mo.

Jobs formerly held by men only, now performed by women.

I. Operations:

a. Flight Control Clerks - 23 women
Co. plans to staff entire office with women
Min. rate of pay - $115 per mo.

b. Maintenance Dispatch Clerks - 12 women
Min. rate - $120 per mo.

c. Jr. Dispatch Clerks - 4 women in training
Min. rate $100

d. Radio Operators - 5 women
Min. rate - $110

e. Meteorologists - 14 women
Min. rate for Jr. $130 - Range of rates up to $275

f. Instrument Mechanic - 1 woman at present, 10 more to go in training.

g. Spark Plug Cleaners - 12 women in training

h. Weight and Balance Clerks - 4 women
Min. rate $115

i. Teletype Operators - 45 women
Min. rate $115

II. Stock Room:

a. Tool room Clerk - 14 women
Min. rate $100 per mo.

b. Apprentice Store Clerks - 18 women
Min. rate $105 for 6 mos.

c. Store Clerks - 3 women
Min. rate - $130 per mo.

III. Tickets and Reservations:

a. Reservation clerks - 128 women
Min. rate - $125 per mo.

b. Chief Reservation Clerk - 1 woman
$200 per mo.

c. Ticket sellers - 55 women
Min. rate $125

IV. Office:

a. Draftsmen - 6 women (considered Tech. not office)
Min. rate - $130

b. Chief Clerks - 5 women

c. Head of Dept. Units - Semi Supervisory - 25 women
Rate - $150 to $200

d. Office boys (Mail Clerks) - 4 women
Min. rate $80 per mo.

Office work is practically all being done by women.
Out of 400 in K.C. office only 90 are men.

At present Co. has an order for 50 trainees in Operation -

30 women in Engine Overhaul
10 women in Instrument Service Dept.
10 women on Government work - make up cables, etc.

January-February 1943
Opal Gooden

U. S. Department of Labor
WOMEN'S BUREAU
Washington

Transportation

WOMEN IN AIR TRANSPORTATION
American Airlines

American Airlines is a commercial airline with headquarters in New York. Flight schedules include Boston, Washington, D. C., Memphis, Nashville, Cleveland, Chicago, Los Angeles, El Paso, Ft. Worth and Mexico City. This company carries more passengers than any other airline.* The material of this report is the result of field visits to the National Airport in Washington and to LaGuardia Field in New York City.

Since the war, passenger and cargo service are on a war priorities basis. All new planes and many experienced crew members have been taken over by the Army Air Transport Command, and a few by the Navy, for war duty. At the same time air traffic, mail and cargo have increased sharply. Air transportation is a designated essential war industry.

The main base for American Airlines is in New York. The overhaul and repair shops, fleet operations, reservations, and part of the executive offices are being moved to the Air Terminal Building in Manhattan because of overcrowding. In Washington, executive offices and operations are located at the National Airport on the Virginia side of the Potomac. Only a small ticket office is maintained in the District.

PERSONNEL

Numbers of Women

Of the 5,860 employees of all classifications for the entire company, 1,666 or 28.3% are women. One year ago 21% were women, two years ago 19.1%. Two years ago women were taken on to supplement men as the industry expanded; for the past year they have also been replacing men called into the armed services. The Personnel Director expects to have at least 50% women before the end of the war.

* See appendix

American was the first airline to hire women for any but stenographic or stewardess jobs. Seven years ago women were introduced to the reservations division, then to the ticket counter. At the time these steps seemed more revolutionary than the more recent assignment of women to ramp agent and shop maintenance work. The women have proved themselves capable and satisfactory.

Salaries and Wages

Pay rates are based on the job without regard to sex. All of the airlines pay identical or approximate beginning salaries throughout the country, have similar policies regarding automatic raises, and have a system of free air travel based on length of service. It is believed that these policies discourage "shopping around between companies for jobs", and facilitate the transfer of employees from one section of the country to another.

Schedules of pay rates are:

Reservations clerks (reservations table, space control, messages, ticket counter), weight control clerks, stewardesses, etc.

$125 a month first 6 months
$140 second six months
$150 end of first year
$ 10 annual increase up to 5 years
$ 15 above scale for supervisors

Fleet Service clerks

50¢ an hour first 6 months
60¢ an hour second 6 months
5¢ an hour annual increase
75¢ an hour for supervisors (plus senority rate)
85¢ an hour for foremen (plus senority rate) Eligible to "bid" for foreman job after 2 years service when vacancy occurs.

Junior Mechanics

50¢ an hour in training
65¢ an hour first 6 months on regular job
70¢ an hour second 6 months
75¢ an hour third six months and thereafter.

Wage scales for more skilled mechanics are correspondingly higher, from $1 an hour for qualified mechanics to $290 a month for lead inspectors, the top classification. Only one woman is a fully qualified aviation mechanic.

Overtime pay of time and a half begins after 48 hours since the Airlines operate under the provisions of the Railway labor Act.

Bargaining agent for shop maintenance workers is the Air Line Mechanics Association International, a company union. Other classifications of workers are not covered by any type of bargaining agent.

A labor-management committee is being organized at the New York base.

Additional Compensations, Benefits, etc.

The policy of free air travel mileage for employees has been somewhat hampered by war traffic. Before the war air employees received not only their own travel mileage based on length of service but also vacation mileage for himself and a relative. For the duration the special vacation air travel mileage is subject to the priorities of war traffic. All employees are entitled to:

1500	miles of air travel	after 6 months service
2000	" " " "	" 1 year's service
3000	" " " "	" 2 " "
4000	" " " "	" 3 " "
5000	(Maximum) " "	" 4 or more year's service

This mileage must be used within the specified time and cannot be accumulated for future use.

A $2,000 life insurance policy, with special sickness, accident, and hospitalization clauses if desired, is available to company employees at a reduced rate, on a group basis after three month's service. Policies are written by the Traveller's Insurance Company and premiums are paid entirely by the employees.

There is also a credit union open to employees.

Hours and Shifts

Around the clock shifts work a 48 hour, 6 day week. Hours are staggered so as to maintain a full force during a department's normal peak period, a skeleton staff during slack hours. These periods are different for some departments so there is no fixed system of shifts arriving and leaving at certain hours three times a day.

Women take their regular turns on the Night shifts. A worker stays on the night shift a month; day and swing shifts change every two weeks. The one day off varies from week to week.

Meal periods are from half an hour to an hour. There are no fixed schedules for the 10 to 20 minute rest periods permitted on each 4 hour work stretch.

Vacations, Sick Leave

Two weeks vacation with pay is given after a year's service with the company and 12 days sick leave.

TYPES OF JOBS ON WHICH WOMEN ARE EMPLOYED

Brief Description, Qualifications, Training

1. The principal types of jobs on which women are now employed: --

    1. Stenographic, bookkeeping, general clerical
    2. Reservations (reservations table, messages, space control, ticket counter)
    3. Weight control
    4. Control Tower
    5. Meteorology
    6. Link Trainer Instruction
    7. Flight Service
    8. Dispatching
    9. Repair and Overhaul
    10. Cleaning planes
    11. Food Service
    12. Stewardess

2. Planes carry a very limited number of passengers, all of them in a hurry, and flights may be delayed or canceled by bad weather. Inquiries about flight schedules, telephone and telegraph reservations, and all the other multitude of detail necessary to saving a particular seat for an individual passenger, in

addition to finally selling the ticket, are handled in the several sections of the reservation department. The work of each section carefully dovetails with the other sections and clerks are shifted from one to another in order to learn the whole process. Until 5 years ago all of these jobs were held by young men who wanted to learn the airline business. Women were first used on the reservations table where a good telephone manner is necessary. Three years ago the first woman took her place behind the ticket counter. At the New York base, 60% of the reservations clerks are now women.

College graduates are preferred, though high school graduates with some business experience are acceptable. They must be between 21 and 30 years of age. The company training school in New York for all new employees in these jobs has been closed for the duration and training on the job supplemented by classes at each main base has been substituted. Employees attend classes on job time. More women are being used as supervisors and supervisors-in-training.

3. Weight control clerks must be good at lightning speed arithmetic and able to work accurately under pressure. Last minute weight calculations before a plane takes off determines how much cargo, mail, gasoline, and the number of passengers can be taken on for that particular flight.

4. From the control tower the plane is directed to a safe landing on the field below or given clearance to take off. Flying experience, knowledge of radio and meterology are the best qualifications for this work. The top jobs are among the most important in the flying business. Women are largely minor assistants so far.

5. Meteorologist must have the necessary technical college training required by the Civil Aeronautics Commission.

6. A Link Trainer Instructor can learn on the job the routine of giving flight problem instructions and checking the results. The instructor gives the pilot in the cockpit of the miniature "plane" a flight problem which must be worked out by instrument ("blind") flying; the trainer records the motions of

the "plane"; the instructor and the pilot check the recorded results.

7. Flight Service included handling baggage, mail, and cargo; loading and refueling and unloading the plane; young boys have always been used on these jobs. The amount of weight lifting requires some assistance from men. It has been difficult to find girls strong enough for the work. They must be high school graduates, if possible, between 18 and 30 years of age, about 5'5" tall, weigh at least 130 pounds, have a driving permit; and they must pass a rigid physical examination which includes special attention to back strain. The girls wear coveralls.

8. Dispatching is actually the outdoor part of the operations division, the indoor part being weight control or computing the load. The uniformed attendant out on the field who signals the plane to its exact spot on the landing field and performs similar operations for the take-off is called the Ramp Agent. Girls have been on these jobs a comparatively short time.

9. Under war conditions the four year aviation mechanic's apprentice system has broken down. Few women hold mechanics' licenses. Women on mechanical jobs are very satisfactory on overhaul work where planes are completely dismantled, cleaned, repaired, and rebuilt inside the shop. The jobs are very similar to those in aircraft engine, assembly, radio and instrument plants. Such work is done only at an Airlines main base. New workers begin as trainees in a nearby aircraft school, after 4 to 8 weeks they are put on the job.

10. Like a train a plane is thoroughly scrubbed, cleaned and polished regularly inside and out. The women are said to be doing a better cleaning job than the boys whom they are replacing.

11. Negro women are used most in the food service department where both the special flight menus are prepared and packed and the regular cafeteria food is cooked. This work is all done in the regular kitchens at the airports. No previous experience is required.

12. Stewardesses were the first women hired by the airlines and remain the

only women crew members. Until February 1942 they had to be graduate nurses, American citizens, unmarried, 21-26 years old, 5'2" to 5'6" tall, weigh not more than 125 pounds. Since that date only the height, weight and not married requirements are the same. Because of the shortage of trained nurses this requirement was dropped. Now they must have at least 2 years at an accredited college and 2 years of work experience, or 4 years of college and one of work experience, be between 25 and 28 years of age. Stewardesses must pass the same physical examination as pilots and other crew members. They must have many social graces and a lot of common sense. The 12 stewardesses on the Mexico City to El Paso route also speak fluent Spanish.

Training is intensive for 2 months at the special school for stewardesses with week-ends used for observation flights.

There is a high turnover, mostly due to marriage. Since the war, 10 American Air Line stewardesses have enlisted in the Army Air Ambulance Service. Recruiting goes on constantly but the successful candidates are few because of the very specific specifications. Only 22 out of almost 200 American Airlines stewardesses have had more than 5 years service.

Pay is the same as for other technical and semi-professional jobs ($125, etc.) except that special living allowances are made for expenses away from the base station. There is almost no opportunity for promotion. The few field supervisors and the "Chief" stewardess were promoted from the ranks.

FURTHER USE OF WOMEN

There are very few jobs women could not do in airline transportation provided they had the training and experience, not excepting all of the jobs of the flight crew and the control tower. On these more specialized and most desirable jobs opportunities for experience are even more limited than for training.

Where heavy lifting is involved, as in Fleet Service and on some of the scaffolding repair work on planes, women cannot be used much more than they are

now.

POST-WAR POSSIBILITIES

It is reasonable to assume that the airlines will expand after the war and will need more employees than before the war. The seniority rights of the men now in the armed forces entitle them to their former jobs if they want them.

The company expects that many of their married women employees will leave after the war if they do not need to work. The Personnel Director says that where women have equalled or surpassed men on certain jobs (reservations, instrument repair) the company does not expect to replace them with men. There seems to be a rather liberal attitude toward women evidenced by the fact that they gradually were being introduced into strictly "masculine" jobs several years before the war and were given equal pay.

ABSENTEEISM

No company-wide figures were given for absenteeism but the report was unfavorable for the women on one and two day absences. The Washington Personnel officer said that the women were ill more often than the men and were "out about 75% more than men." Home responsibilities, the 6-day week and transportation difficulties were recognized as contributing factors.

UNIFORMS

The garments are purchased from the Eastern Isles Importing Co., of Clinton, Massachusetts, and the one-piece suits cost approximately $3.35 each. The material is Wellington Sears #S-1500 in colors, sand and gragreen. The turbans are about 45¢ each and made from from Wellington #S-1493 in colors, sand and gragreen. They are worn by shop employees.

These materials are of approximately the same texture and grade as our coveralls for men, and we have reason to believe they should wear as well, if not better, assuming that they will not become as greasy or subjected to the same degree of abuse. In many instances our men's coveralls last as long as two years, and we estimate the average to be in excess of one year.

Stewardesses buy their winter uniforms which cost $50. They are dark blue wool. The company furnishes light weight summer uniforms.

Transportation Problems

War transportation difficulties only aggravate pre-war transportation problems for airport workers. Usually located on the edge of a city with no other industry very close by, airports normally have inadequate public transportation facilities. The amount of time required going to and from work by bus or car is considerable. The system of shift rotation makes regular car pool schedules difficult and bus schedules very unsatisfactory for the workers, especially for those on early morning or late night shifts.

* * * * * * * * *

INTERVIEWS

National Airport, Washington, D.C.

Mr. Jay Abbott, Public Relations
Mr. Charles Startup, Reservations Chief
Mr. R. W. Baker, in charge of Reservations personnel
Weight Control Chief
Mr. William Morris, Fleet Service Chief
Mr. H. D. Sillman, Manager
Food Preparation Chief
Two girls in Fleet Service
Chief Mechanic
Miss Ruth Anderson, Stewardess Personnel Procurement

LaGuardia Airport, New York, N.Y.

Mr. Buell A. Patterson, Public Relations Chief
Mr. Francis G. Malbeuf, Eastern Public Relations Director
Mr. Victor Vernon, Personnel Director
Mr. John Ewing, Reservations Chief
Mr. R. Major, Foreman, Instrument Repair
Mr. Core, Foreman, Radio Shop
Mr. Greenue, Foreman, Electrical Shop

From Aero Digest
September 1942

APPENDIX

Statistics for the first four months of the year--before the drastic curtailment of schedules--reveal how big a job these companies have really done. For in addition tocarrying 1,292,709 passengers, they also carted 10,144,851 lb. of express, much of which was war material or equipment needed by war plants. As an example of how the airlines have increased in importance to the country, a comparison with the first four months of 1941 shows that 47.22% more passengers and 111.8% more express is being flown this year than last. No figures are given for mail poundages, but it is known that substantial gains also have been recorded in this category.

Reverting to the month of April, the domestic lines flew 11,339,905 miles (revenue) carried 404,744 passengers and 2,883,891 lb. of mail, and were operating at the extremely high passenger load factor of 75.68%. They had accumulated a total of 148,607,340 passenger miles and 1,594,732,547 express pound miles as well as 196,363,869 passenger seat miles.

Statistically, American Airlines retained its long-held place at the head of the operators when it carried 122,331 passengers during April. It was followed by Eastern Airlines which carried 63,081 passengers; United, 59,283; TWA, 46,627; PCA, 34,756; Braniff, 15,650; Northwest, 15,095; Delta, 12,074; C & S, 8,282; Western, 7,929; National, 4,843; Mid-Continent, 4,395; Continental, 3,764; Northeast, 3,554; Inland, 1,604; and Catalina, 1,476.

OCCUPATIONS - BUILDING TRADES

Bricks & Clay Record
Women Workers are Doing a Good Job in Clay Products Plants. - Feb. 1943 p 46

Pictures of women workers at A. P. Green Fire Brick Co., Mexico Mo - Count 36.

More than 40 women now employed in varied jobs. The following departments employ 1 or more women, on jobs formerly ours:

Loading (skid-trucks; dry press, pit (mixing shed), construction, finished grinding, yard office, welding; laboratory, burnish dryers & setting, pattern shop, tunnel kilns, grinding, stockroom, tunnel kiln machine shop, setting I. F. B grinding, machine and 1600 Sair press dept.

In dry press dept. women work as setters, in grinding dept 3 work as grinders all with an operator and assistant helping keeping supplies for women. Women pack more than a carload of fire a day. In grinding goggles & glasses worn.

At Pacific Clay Prod. Mint, has begun to employ women as workers.

OCCUPATIONS - BUSINESS

List of 41 Women in Business.

1. Mrs. Ora H. Snyder, Founder and owner of Mrs. Snyder's Candies, Chicago, Ill.

2. *Clara E. Laughlin, The Clara Laughlin Travel Service, Chicago, Ill.

3. Mrs. Lucy Rogers Hawkins, Editor of a page, News Index, Evanston, Ill.

4. *Mabel Cook Cole, Anthropologist, Chicago, Ill.

5. Catherine Waugh McCulloch, Lawyer, has been Justice of Peace in Evanston, Ill., and Master in Chancery, Superior Court, Cook County.

6. *Reva Clair Hoff, Lawyer. George S. Hoff and Daughter, Realtors, Danville, Ill. (Farm-loan business)

7. *Caroline Bartlett Crane, City Sanitarian, Kalamazoo, Mich.

8. *Leonore Richards, Cafeteria Manager, Richards Treat Cafeteria, Minneapolis, Minn.

9. *Cora G. Lewis, Publisher. The Kinsley Graphic, Kinsley, Kans.

10. *B. G. Schwartz, Export Sales and Advertising, Cleveland, Ohio

11. *Sarah J. MacLeod, Director, Home Economics Bureau, Society for Savings, Cleveland, Ohio. (Field of banking).

12. *Mary Love McGuckin, Department store restaurant manager. The Maramor, Columbus, Ohio.

13. *Corinne V. Loomis, Life Insurance Counselor. Member of the firm of Paul F. Clark, Agency and Manager of the Woman's Dept. of the John Hancock Mutual Life Insurance, Boston, Mass.

14. *Suzanne Stabern Graham, Sales Manager, Gilchrist Co., Boston, Mass.

15. *Florence L. Webb, Buyer, William Filene's Sons Co., Boston, Mass.

16. Olive Dennis, Service Engineer, Baltimore and Ohio Railroad, Baltimore, Md.

17. *Avis Lobdell, Director of Women's Personnell and Public Relations, Union Pacific Railroad System.

18. *Margaret Bourke,White, Industrial photographer, New York City.

19. *Ruth Lyle Sparks, President of the New York Decorators' Club, Member of the Board of Directors of A. I. I. D., New York City.

20. *Margaret Green Dargan, Department store stylist, R. H. Macy & Co., New York City.

21. *Margaret Fishback, Institutional copy writer, R. H. Macy & Co, New York City.

22. *M. Irene Salmon, Personnel department, Houghton, Mifflin Co., New York City

23. *Helena Rubenstein, Beauty Culturist, President, Helena Rubenstein, Inc., New York City.

24. Alice Foote MacDougall, Owner and amanager of a chain of restaurants, New York City.

25. *Edythe R. Raabe, Chemical engineer, American Telephone and Telegraph Co., New York City.

26. *Lillian M. Gilbreth, Ph.D., Industrial engineer, Montclair, N. J.

27. *Emily Kneubuhl, Executive Secretary, National Federation of Business and Professional Women's clubs, New York City.

28. *Elizabeth Ware Devree, Advertising, G. Walter Thompson, New York City.

29. *Margaret Cuthbert, In charge of Speakers Program Department, National Broadcasting Co., New York City.

30. *Bertha Brainerd, Program Manager, National Broadcasting Co., New York City.

31. *Kathleen Howard, Fashion Editor, Harper's Bazaar, New York City.

32. *Jessie Tarbox Beals, Garden Photographer, Chicago, Ill.

33. *Irene Hayes, Flower shop owner and manager, New York City.

34. *Carol Hill, Literary Agent, New York City.

35. *Ruth Finney, Newspaper reporter, Scripps-Howard Newspaper Alliance, Washington, D. C.

36. Bess Furman, Newspaper reporter, Associated Press, Washington, D. C.

37. *Cleona Lewis, Ph.D. Economist, Staff member, The Institute of Economics of the Brookings Institution, Washington, D. C.

38. *Pauline E. Mandigo, President, Phoenix News Publicity Bureau, Inc.

39. *Erma Garey, Private secretary to Hon. Jouett Shouse, Washington, D. C.

40. *Ann de Priest, Transportation air hostess. (No firm given but probably Eastern Air Transport)

41. *Sonya Levien, Screen writer, Fox Film Corporation. Studio, New York City.

WOMEN IN BUSINESS

Some Outstanding Occupations

Business Statisticians

Actuary - Insurance Company
Interpreter of Business trends, business magazines or manufacturers
Investment house statistician
Field sales surveyor
Financial report analyst

Stylists and Industrial Designers

Industrial designer-household, office, store equipment
Fashion promotionist-manufacturers
Designer-textiles and costumes
Fashion editor-fashion magazines
Style Adviser-manufacturers
Style promotionist-stores
Display planner-store
Stylist-retail store
Stage designer
Style reporter

Salesmanship

Retail dealer-foods, clothing
Store merchandiser
Store buyer
Investment broker
Insurance broker

Public Relations

Banking contractor-new accounts and service
Manufacturer's sales director
Radio commercial writer
Illustrator, advertising
Copywriter, advertising
Art layout, advertising
Typographic supervisor
Radio program planner
Aviation promoter
Theater promoter
Travel agent
Press agent

Housing

Renting or sales broker
Housing manager
Interior decorator
Title searcher
Housing inspector

Business Home Economics

Owner or manager-restaurant, cafeteria, or tea room
Food adviser for hotel or restaurant kitchen
Hospital dietitian
Educational adviser-food manufacturers
Food editor-newspaper or magazine
Radio food commentator
Educational director-textile manufacturers
Textile adviser-advertising agencies
Household equipment demonstrator
Household equipment servicer
Executive housekeeper-hotel
Institutional manager

WOMEN IN THE PROFESSIONS
(U. S. CENSUS - 1930)

Occupations	1910	1920	1930
Teachers	478,027	639,241	860,278
Trained nurses	76,508	143,664	288,737
Artists, sculptors, musicians and teachers of art and music	99,907	87,295	101,255
Librarians	5,829	13,502	27,056
Social and welfare workers	1/	1/	24,592
Actresses and showwomen	13,100	14,354	20,785
College presidents and professors	2,958	10,075	20,131
Authors, editors, and reporters	6,239	8,736	17,371
Designers, draftsmen, and inventors	3,012	7,664	9,212
Photographers	4,964	7,119	8,366
Physicians, surgeons, and osteopaths	9,015	8,882	8,388
Lawyers, judges, and justices	558	1,738	3,385
Architects	302	137	379
Chemists, assayers, and metallurgists	579	1,714	1,905
Clergymen	685	1,787	3,276
Dentists	1,254	1,829	1,287
Technical engineers	11	41	113
Veterinary surgeons	-	1	11
Other professional pursuits	2,263	5,763	18,898
Semiprofessional and recreational pursuits	2/	2/	55,184
Attendants and helpers, professional services	2/	2/	55,625

1/ Included in semiprofessional pursuits in 1910 and 1920.

2/ Comparable figures not available for 1910 and 1920.

Earnings of Women College Graduates in 1934, by Occupation
(From survey of members of American Association of University Women)

Occupations	Number of women	Average (median) year's earnings
Total	7,667 1/	$1,676
Physician or psychiatrist	43	2,708
Personnel administrator	121	2,382
Educational executive	1,079	2,190
Home economist	185	1,920
Research worker	170	1,838
Office manager	66	1,792
Trained nurse	47	1,716
Teacher	4,315	1,642
Librarian	427	1,598
Social, health or religious worker	385	1,421
Secretary	273	1,278
Editorial worker	60	1,267
Independent business	157	1,145
Clerical worker	200	923
Sales, advertising and publicity	66	891

1/ This total number of women reporting on earnings includes 73 in professions other than those specified, the number in each being too small for the median to be computed.

2703 Russell Road,
Alexandria, Virginia
July 23, 1940

Dear Member of the Business and Professional
Women's Club of the District of Columbia:

The President and the Board extend a warm welcome to all new members and cordial greetings to all members, old and new. Our club, with its more than 300 members, is a part of the largest and most important organization of business and professional women in the world. Each of us, like every other one of our 73,000 members, has a great opportunity in this membership for companionship, education and cooperation in our worthwhile activities. Each of us has an obligation also, as it is the combined efforts of all that make the organization the great force that it is in American life. If you have not already connected yourself in committee work for next year, the Board would appreciate it if you would inform the President with which committee you would prefer to work. (See list of committees in Directory.) All members are expected to assist the Membership Committee by informing us of desirable "prospects" who are interested in the club, and in encouraging and assisting members in getting to the meetings on the second and fourth Mondays, and in participating in our varied and interesting activities.

Your President wishes to thank the club for a delightful, strenuous, and educative experience in the attendance at the annual meeting of the national Board at Asheville, North Carolina, July 7th to 12th. Your President served in the difficult task of chairman of the Resolutions Committee with the California and Missouri State presidents, and took part in various discussions. Three other members of our club attended this conference, Judge Lucy S. Howarth, as chairman of the national Public Affairs Committee, and Miss Vera Lundquist and Miss Emma T. Hahm, as visitors. Results of this stimulating conference will appear throughout the coming year's work.

Our National President, Dr. Minnie L. Maffett, gave a magnificent performance in steering the deliberations of the Board. Her recommendations provided: (1) That "as members of the federation and as citizens of democracy, we appraise with calmness the problems of our time and pledge ourselves to aid in their intelligent and far-reaching solution by working constructively and wholeheartedly on the tasks assigned us; (2) that in view of present world conditions, for the ensuing fiscal year only, the Executive Committee be given emergency powers to make such decisions as may require immediate attention; (3) that we favor whatever effort is necessary to effect a nationally coordinated plan for national defense and also for emergency war relief, rather than the multitudinous and sporadic efforts made at present by various groups and organizations."

Dr. Maffett and others from the national Board and staff will attend the Southeast Regional Conference so that all who go will again have the opportunity to meet this inspiring leader, and make many interesting new contacts.

The national theme of the coming year is "Making Democracy Work." The program books have been published at 50¢ per copy and may be obtained from the chairman of the Publications Committee, Mrs. Brownie Kerr, at the first meeting in September. This theme is a stirring one at this critical time in our national

life. We hope that many of you will find the book useful in meeting your personal responsibilities in and outside of the club.

The August issue of the Independent Woman will have particularly important material for all of us, as it will contain reports of the National Board meeting and of our important year's accomplishments for women, and outlines of the national program for the coming year. As to this program, we may predict that it will be a vital one from the six point program outlined in Dr. Maffett's opening address at the Board meeting in which she indicated how we could help in the nation's problems as follows: "(1) We can help set our national house in order; (2) we can help to make democracy work better at home; (3) we can see that the fifth column has no place on our highways or byways while we avoid unfair criticism; (4) as women, we can begin now . . . to bring about a revival of spiritual life in America; (5) we can show the suffering nations of the world that the enduring things of life--liberty, religious freedom, economic security, opportunity and personal happiness--flourish best in a democracy; (6) we can set about now getting ready for the peace."

You have already learned that our club has organized an Emergency Committee with Mrs. Helen Baker as chairman. If you wish to cooperate with the Red Cross, go to the Walsh House at 21st Street and Massachusetts Avenue on Wednesday evenings particularly, or communicate with Mrs. Baker, 1870 Wyoming Avenue; if you wish to do knitting, crocheting, or sewing, as well as, or instead of, rolling surgical dressings, you can do so. The Red Cross supplies the necessary materials for products made. Please keep a record of your time and number of garments made.

You have read in the press that the executive committee, assisted especially by the Public Affairs Committee and the Emergency Committee, as well as by individual members, also drew up an outline of useful tasks which young women could perform in a defense program; it was transmitted by Judge Howorth to the Advisory Council for National Defense which received it with much appreciation.

Your new Board has had one meeting and will meet again on August 5th; in addition to confirming the action taken above and transacting other business, the Board requested that every member who wishes to express appreciation for the National Symphony Orchestra of Washington do so by sending in your name to Mrs. Ethel H. Ashman, 121 - 11th St., N. E., Washington, D. C. or to Miss Naneita Antilotti, Apt. 205, Dupont Circle Hotel, when you send your check for dues. These expressions of appreciation will be transmitted formally to the orchestra in September.

Your Board also wishes to extend to all of the membership the invitation to the Regional Conference, details regarding which are included in a separate sheet. You will find this sheet useful for reference. We hope to have scores of members (including the Vice-President, other officers, committee chairmen, past presidents, and many other members) attend this enjoyable conference over the Labor Day vacation. Special songs have been written for us by Mae Murray, Alice Koch, and Jessie Dame. It is hoped that Reithel Murphy will go along as our accompanist for these songs. Come and enjoy the famous hospitality of the South!

In closing, the President wishes to quote from a recent story in the Washington Post entitled "Turn Nerves into Charm." Though an advertisement for a booklet, the words sound especially apropos for the good old summertime: "Treated with understanding, nerves become a source of charm, vitality; abused, they can make you wretched, may cause physical ills. . . . .your first need is to build up your exhausted nerve energies--by walks, exercise in the fresh air, a well-balanced diet, plenty of restful sleep. Learn to "save" yourself. . . . . Soon to your happy surprise you will find that molehills are only molehills--that you are filled with a zest for living, have abundant energy for the important and joyous things of life."

To all, I wish a happy summer holiday; I am looking forward to a stirring, useful, harmonious year, in work with you.

Sincerely yours,

Florence A Armstrong

Florence A. Armstrong,
President.

WOMEN IN BUSINESS

Some Outstanding Occupations

Business Home Economics:

- Owner or manager - restaurant, cafeteria, or tea room
- Food Adviser for hotel or restaurant kitchen
- Hospital dietitian
- Educational adviser - food manufacturers
- Food editor - newspaper or magazine
- Radio Food commentator
- Educational director - textile manufacturers
- Textile adviser - advertising agencies
- Household equipment demonstrator
- Household equipment servicer
- Executive housekeeper - hotel
- Institutional manager

Public Relations

- Copywriter, advertising
- Art layout, advertising
- Illustrator, advertising
- Typographic supervisor
- Manufacturer's sales director
- Radio program planner
- Radio commercial writer
- Press agent
- Travel agent
- Banking contractor - new accounts and service
- Aviation promoter
- Theater promoter

Stylists and Industrial Designers

Style adviser - manufacturers

Industrial designer - household, office, store equipment

Designer - textiles and costumes

Fashion promotionist - manufacturers

Stylist - retail store

Display planner - store

Style promotionist - stores

Stage designer

Style reporter

Fashion editor - fashion magazines

Business Statisticians

Actuary - Insurance Company

Interpreter of Business trends, business magazines or manufacturers

Investment house statistician

Field sales surveyor

Financial report analyst

Salesmanship

Retail dealer - foods, clothing

Store merchandiser

Store buyer

Investment broker

Insurance broker

Housing

Renting or sales broker

Housing manager

Interior decorator

Title searcher

Housing inspector

OCCUPATIONS — CHEMISTS

Women chemists
(lab aides) are
receiving same
beginning rate as men
78 cents CM 2/20
EE - Steel mills Gary & So. Ch.

Part of Chemistry in War Achieves Important Place

By a Staff Correspondent of The Christian Science Monitor

WASHINGTON, Aug. 29—The statement that this is a chemists' war is strongly borne out in a partial survey here of the extraordinary part which industrial chemistry is taking in the war against the Axis.

A modern army may still move on its stomach, but it's a sure thing that it wouldn't go very far without the aid of chemistry.

In a series of short findings, E. I. du Pont de Nemours & Company has reviewed the use of chemistry in the manufacture of such diverse products as explosives, tanks, planes, ships, synthetic rubber, cellophane boxes for the shipment of frozen eggs, quick-drying paint for military equipment and many other indispensable articles of modern warfare.

Salt—common table salt—is one of the basic raw materials which chemistry is using to strengthen the Army and the Navy. In fact, it is so important that more than 10,000,000,000 pounds of it will be converted during 1942 into war chemicals.

Salt can be separated by electrolysis into basic elements essential to building and operating airplanes, tanks and guns, and to the manufacture of high-test gasoline, synthetic rubber and a host of things military.

At an eastern du Pont plant, a powerful electric current performs this operation and from salt turns out a silvery-white metal—sodium—and a greenish-yellow gas—chlorine, as the first step in the

turrets, navigation "blisters" and other transparent sections of fighting airplanes.

Nitrogen From Air

Artificial nitrogen, a component part of all explosives, is said to have released as many ships for vital military needs as the Axis Powers have sunk in the Western Atlantic since the outbreak of war. Formerly, all nitrates had to be shipped from Chile. Now, however, nitrogen is extracted chemically from the air.

Commercial explosives, not used directly in war but extremely vital to the war effort, are being produced this year in quantities approximating an all-time high. It is possible that the United States will use 450,000,000 pounds of dynamite this year.

But dynamite and other commercial explosives are essential to war production in ways no less important than are the explosives to fire the guns. War production demands increasingly greater amounts of metal and other raw materials—oil, coal, cement, stone, potash, iron, copper, sulphur, salt—all of which are gathered with the aid of explosives.

Quicker Drying Paint

Meanwhile, research chemists in the paint field are easing one of the most serious brakes on war production by drastically reducing paint drying-time. A paramount objective of paint research has long been the speeding up of mass production by developing fast-drying finishes.

Now, with the urgency of military requirements pressing chemists in paint laboratories over the nation, several remarkable new time-saving methods and materials have spurred war production greatly. A du Pont development has been the short-bake synthetic finishes of the urea-formaldehyde resin variety.

Frozen eggs are now being packaged in cellophane, with an outside overcoat of cardboard, as a further contribution to the metal saving program.

Egg-freezing is an important factor in the business of feeding the nation and its allies. Estimates for 1942 run to a new peak above 350,000,000 pounds, or 3,430,000,000 eggs. Bakeries, restaurants and other domestic consumers receive the eggs either still in the frozen form or after they have been defrosted and dried. Lend-lease shipments are in dried form, and are becoming constantly more important, because of the high nutritional value in proportion to weight and bulk.

'ces With Axis Bias ıl Morale Committee

The Christian Science Monitor

revealed that about 40 per cent

Women Guards Act as Aids In Middlewestern War Plants

Continued from Page 1

before, as Henry Ford is doing at Willow Run, and the aircraft factories are doing on the West Coast.

Few Complaints Heard

At the Hudson naval arsenal, they have begun to draw on new sources of labor after putting nearly all of the Hudson Motor Car Company employees back to work on seniority basis. Plant officials admitted that younger girls would probably have learned to make antiaircraft guns faster than some women factory workers with 18 to 20 years' seniority.

Women are doing dozens of operations in making guns at the Hudson arsenal from distributing tools to operating complicated milling machines. About 3½ per cent of the workers at the arsenal are women today; in time the proportion is expected to increase to 15 to 20 per cent, Mr. Baits said.

The average woman in an airplane factory is not as complaining as the average housewife, according to Dr. Margaret S. Nelson, in charge of physical examinations at Chrysler's De Soto bomber plant.

Duties at Home Also

Trying to do a double job of keeping house and working in a factory sometimes makes women workers a "little nervous," but for the most part, Dr. Nelson said, "they are very happy." Particularly those women who have sons or sweethearts serving in the armed forces abroad seem to get a deep satisfaction out of a war factory job, she said.

"Sometimes the women tell me that riveting 'gets on their nerves,' but when I investigate I usually find it is some domestic problem that is bothering them," Dr. Nelson said. "But for the most part they have too much to do in the factory to worry about what is going on at home," she added.

Dr. Nelson reported that women have fewer serious accidents in the plant than men, that they do not take time off unnecessarily and do not object to standing at machines for long hours.

Change in Population

While they have done what they feel is a highly successful job in converting the automobile industry to war production, many industrialists in the automotive capital see trouble ahead, due not so much to expected materials shortages as to the changing character of Detroit's population.

Great hordes of people are flocking here in search of work. Trailer camps have sprung up everywhere. This city, built as it is around an automobile economy, will suffer greatly when tires wear out or gasoline is rationed.

The Negro problem is troubling many employers. A number of plants have taken on Negro men, even though their entrance caused a strike at one plant.

Also the President's Committee on Fair Employment Practices is asking the factories to take on Negro women. Some fear trouble within the plants if they do. With the men there is no segregation, and presumably will not be with the women.

Negro girls are now employed at a few war plants in the country, such as at Buick's airplane engine plant in Chicago, where they are cleaning spark plugs, but generally they have not been admitted to jobs in war plants.

Problems With Unions

Housing and day nurseries are other problems that Detroit manufacturers are having disagreements about with the unions. Henry Ford is still holding out against a low-cost housing project within walking distance of his Willow Run bomber plant. K. T. Keller, President of Chrysler, refused to answer newspaper women's questions about day nurseries, saying he was afraid talk "would create the need."

Nothing has caused so much discussion in Detroit in a long time as Life magazine's recent article entitled "Detroit Is Dynamite." Few industrialists here deny that Life's conclusions were wrong, but many, like C. F. Kettering of General Motors, wish the nation would place more emphasis on the World War and less on minor civil wars. Most of the labor and racial troubles in Detroit are being stirred up by a noisy minority, it seems generally agreed here.


1307
MONSANTO
MEN AND WOMEN IN
THE ARMED SERVICES
Women of Monsanto



Monsanto has always been a man's company. With the exception of a small group, you are the first women actually to hold jobs formerly filled by men in the laboratories, drafting rooms and plants of Monsanto.

The Springfield, Massachusetts, plant of the Plastics Division has employed women in the past, but in strictly women's jobs. Now jobs always before held by

men are opening and will be filled by women. All over the country women are stepping up to the task which faces them. In addition to keeping the home fires burning, women are now called on to carry on the work of industry to keep our fighting forces supplied with planes, tanks, ammunition, clothing and food. Many of the jobs in Monsanto plants are on continuous processes and must be worked around the clock—three shifts to carry on 24 hours a day.



No other industry is doing more to keep these vital supplies flowing than the chemical industry. Pharmaceuticals and medicinals, which include the sulfa drugs, are saving the lives of thousands of our wounded men. Phosphates for foodstuffs, phosphorus for smoke screens and munitions, alcohol for smokeless powder, chemicals for tanning the leather used in shoes. Alum for the





manufacture of paper and chlorine for the purification of drinking water, ammonia for the textile industry. Rubber accelerators, antioxidants and preservatives go into tires, pontoons, airplane gas tank liners, and other essential war and civilian goods. Lacquers are used on airplane finishes. Plastics, too, are now in war work. Saflex is used to waterproof fabrics. Resinox for soldiers' helmets. Acetates for goggles and glider windows.



It's your job to work side by side with men experienced in chemical operations. These men are aware of the need for women workers to keep the plants in full operation for the duration of the war. They are willing to do their best in teaching you the ins and outs of your particular job, to do it safely and well.

The organization of Monsanto and of the plant in which you work will be explained to you in a booklet,




3/8-0
3/4-0 2
1 1/4-6 2

"Your Job with Monsanto" which you will receive when you start work with Monsanto. This booklet explains what is expected of you and what you may expect of Monsanto. Your hours of work, work schedules, rate of pay, and working rules will all be explained to you by your personnel manager.



Your Health Safeguarding your health is important. Good health is necessary to doing a good job. Every woman knows how important her health is to her appearance. Plenty of sleep —at least eight hours a night—is essential for steady nerves and sparkling eyes. Clear skin, shining hair, sound teeth are all acquired and maintained through the necessary amount of rest and the proper food.



Women are more susceptible to certain disorders than men. They tend to be more anemic and to have more nervous disorders. Their skin is tender and more easily affected by dirt and grease. With a small amount of intelligent care all of these can be avoided. If you are exposed to dust, dirt or grease apply a protective cream to the exposed parts of the skin before starting your job.



A company doctor will give you a thorough physical examination before you enter the plant and will re-examine you at regular intervals. He may find conditions which need correction. Your cooperation with him is to both your advantage and ours. Healthy, happy employes are the ones who do the best jobs, and Monsanto is more than willing to do its part.



If you have periodic difficulties, feel perfectly free to discuss them with the Company doctor or nurse. They may be able to prescribe simple exercises or medications that will solve your problem and help you to avoid much unnecessary pain and embarrassment. If you become pregnant, report it to the doctor at once. He may suggest you be transferred to lighter work or into a different department to enable you to work for a longer period of time. Company doctors are familiar with the plant and the work involved in various departments and are best equipped to give you helpful advice.



Your Diet There are five fundamental foods which should be included in your daily diet to keep you fit and your efficiency at its highest peak.





Milk—*either fresh or cooked in food*

Eggs

Cheese, meat or fish

Fresh leafy vegetables—*raw or cooked*

Bread—*whole grain or enriched or cereal*



An experienced worker always starts the day with a large breakfast. Fruit juice, cereal, ham or bacon (if you can obtain them) and eggs, toast and coffee will give you a good start for the day. Women too often make breakfast a hurried affair—often just a cup of coffee. After having fasted for 8 to 12 hours your body needs a caloric intake to furnish the energy for working. An additional four hours without food makes severe demands upon the nervous system and after a period of time may cause disastrous results. Improper or inadequate food lowers resistance and makes you an easy prey to fatigue and disease.

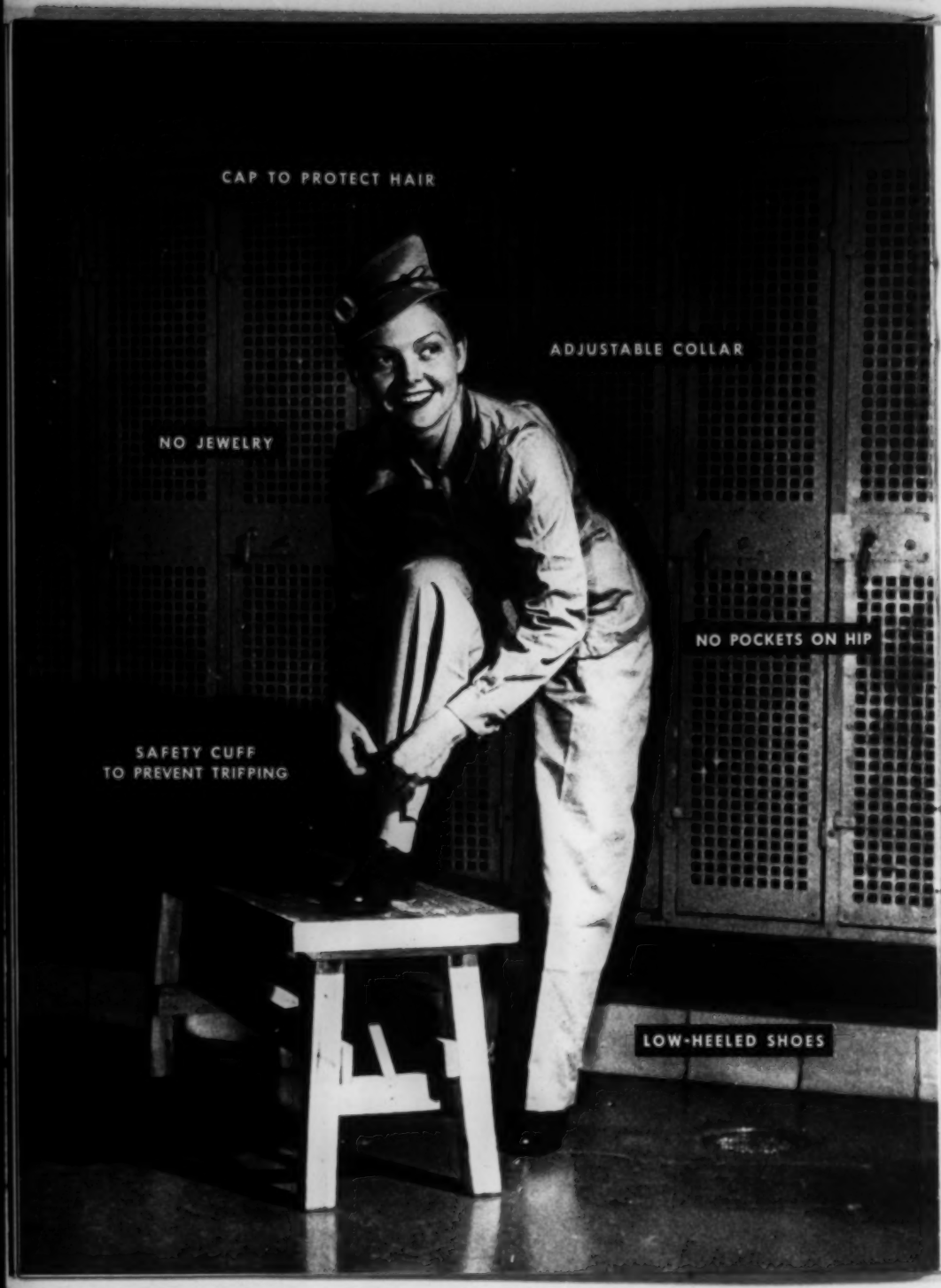
Your General Well-Being Drink plenty of water—at least eight glasses a day. Get plenty of fresh air. Everyone should get some exercise, but do not overdo it. Walking not only is the patriotic thing to do, but it is one of the best forms of exercise. Learn to walk correctly to get the most benefit—weight distributed for easy balance, toes pointed straight ahead, knees flexed. A brisk pace will tone up your circulation —make you feel alive!



You will need recreation, too. One of the best ways of relaxing is to have a hobby for after-work hours. It may be a garden, a camera, reading or knitting. There are hundreds of fascinating hobbies which can add enormously to the joy of living.






CAP TO PROTECT HAIR
ADJUSTABLE COLLAR
NO JEWELRY
NO POCKETS ON HIP
SAFETY CUFF
TO PREVENT TRIPPING
LOW-HEELED SHOES

If your work requires that you stand, sit down and relax during your rest period. If you sit at work, move around and stretch cramped muscles.

Your Safety For comfort and safety and to prevent unnecessary fatigue, wear low-heeled, comfortable walking shoes. Turned ankles and bad falls are caused most often from high-heeled, ill-fitting shoes. Never run in the plant—always walk.



Before you start your new job the plant safety engineer will have given you thorough instructions on how to work safely. He will acquaint you with all the safety rules in the plant. Be conscientious about following them and do your part in making the plant a safe place in which to work.

Your uniform has been designed from the standpoint



of safety and has safety cuffs on the trousers. If your work necessitates climbing stairs or ladders keep the cuffs fastened securely.

Never wear jewelry into the plant. This is a *must* when working in a department where there is any moving machinery. Rings, watches, earrings and necklaces have no place in an industrial plant. Save them for your "dress up" occasions. Serious accidents have been caused by rings being caught in moving parts and fingers dragged into machinery. Hands and fingers are much too precious to risk and should be protected in every possible way. Wear gloves when doing dirty or rough work. Take care of any small cuts or hangnails and prevent infections.





Wear a cap to protect your hair from catching in moving parts. Where dust or moisture is present a cap should

be worn to keep the hair clean. Wherever goggles, respirators or any type of special safety equipment is suggested, wear it. Goggles may not be glamorous but they may save you a painful and disfiguring injury or the very serious loss of vision.



Lifting **Bear in mind that the average woman is capable of lifting only half the weight that can be lifted by the average man. To avoid any back or abdominal strains, train yourself to lift correctly. The strain of lifting should be on the leg muscles and never on muscles of the back.**



1. Face the object with the feet about 8 to 12 inches apart and close to the material to be lifted.
2. Bend the knees into a crouching position facing the object and take a firm hold on it.
3. Keep your back straight, lift slowly by straightening the knees to put the strain on the leg muscles instead of the back muscles.



Your Responsibilities The cleanliness, safety, production and absenteeism records of a plant are the responsibility of each employe. Only by the cooperation of all, can a desirable standard be maintained. All the rules and privileges of a plant apply to women as well as to men. As to personal conduct, it might be well to keep in mind the instruction received by your sister war workers, the WAVES, when they enter service, "Remember you are ladies but forget you are women."



Published by Personnel Section, Department of Monsanto Practice, St. Louis, Mo., Printed in U. S. A.



OPPORTUNITIES FOR WOMEN IN CHEMISTRY

An address by Dr. Henry G. Knight, Chief of the Bureau of Agricultural Chemistry and Engineering, before the Conference on Opportunities in Public Service held by the Institute of Women's Professional Relations, Washington, D. C., Saturday morning, November 11, 1939.

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The present generation of professional women, it seems to me, are pioneers. With few exceptions they are in professions formerly occupied by men. The exceptions are primarily the new professions, such as the various fields of home economics. Although their lone scouts have explored far and wide, as a group the professional women have not penetrated, we might say, much beyond the man-infested wilderness on the other side of the figurative Alleghanies. I do not mean to suggest in talking about pioneering that they are using antiquated methods in promoting their interests, for they certainly are not, nor that they are held back by a lower grade of learning than that possessed by men. We all work with the same sort of equipment, much of it acquired in the same colleges. It is merely a matter of the comparative time that the two sexes have been in the profession. The forming of the women's professional front is within the memory of many of us here - I mean the men here, of course.

Progress is always slow in the pioneering stage. It took more than a hundred years for white men to start making productive use of this continent after Columbus and others had assured their civilized world that there was something on this side of the Atlantic. The commercial production of rayon as a textile fiber began in France more than fifty years ago, yet the rayon-clad women did not move upon the scene until a few years ago. The head of one of America's largest industrial concerns that carries on much basic research emphasized recently the wide gap of years that separates the laboratory discovery from the actual commercial production of a new product. Such periods are necessary to smooth out the processes and to sell the public on the product.

This principle of lag is discussed at some length and from various angles in Technological Trends and National Policy, a publication issued by the National Resources Committee in 1937. One case mentioned is that of the automobile forcing city governments to abandon the fire horses, but there was a delay, says the report, since cities did not always make the change as soon as desirable. Another development was traffic police and traffic control lights, which came along still more slowly.

Now, my invitation to this conference was to talk on opportunities for women chemists. Perhaps I am expected to include opportunities for women agricultural engineers also, since the bureau I represent includes both agricultural chemistry and engineering. I have put up a somber background by calling attention to the difficulties of pioneering and the lag that is apparently almost unavoidable while new things become rooted. The fact that I have not painted a bright-colored picture should not discourage you, for there are opportunities for women in both chemistry and engineering. In chemistry they have demonstrated that by taking advantage of some of the opportunities and by making some. They have succeeded in prying open a few positions that may be considered in the rather broad classification of agricultural engineering. At any rate, there are a few women holding membership in the American Society of Agricultural Engineers. Two are regular attendants at the meeting of the District of Columbia branch of the society. There are no women engineers in the Bureau at present. Since my discussion is on opportunities for women in chemistry I will confine practically all of my remarks to that subject.

Of a total of 188 chemists in the Bureau of Agricultural Chemistry and Engineering, there are 7 women, or a little less than 4 percent. Food research claims the majority of them. Now, how does this compare with the relationship in the whole broad field of chemistry? The latest census figures available show that in 1930 there were in the United States 47,068 chemists, assayers, and metallurgists, of which 1,905 were women, almost exactly 4 percent.

We obtain our chemists from the great national pool of the profession and apparently our percentage of women chemists is very nearly the same as the percentage derived from the more recent census figures. Checking upon the membership in the American Chemical Society, I found that in a total present membership of 23,500 there are about 700 women chemists, or approximately 3 percent. So far as I know there are no statistics available on the number engaged in agricultural chemistry.

I will say here, parenthetically, that there are no such statistics on women engaged in agricultural engineering, but indications are that very few women have made special preparation for the engineering profession. Again referring to the 1930 census, there were only 113 women classedas technical engineers out of the very large total of 226,249. I am not going to express that in percentage, but the figure would be a little better than that for 10 years earlier. Obviously this is not a profession in which women have shown any great interest, and men in it have not begun watching the ramparts with trepidation. But in those

engineering branches closely related by function to work in which women are already engaged I see no reason why women should not become more active. I have in mind housing, household equipment, sanitation, refrigeration and lighting. Not that they might not do well in other branches, but that advance into these would seem easier.

I have shown that the ratio of women chemists to men chemists employed in our work follows fairly closely that in the whole field of chemistry. When more women acquire the necessary education, which is available to all alike, and perfect themselves in the profession through further education and training, then more of them will be found in the better positions. But I would be less than fair if I did not say that they will be struggling under a greater handicap than the men. They must have superior training and superior ability - otherwise objections, real or imaginary, tip the balance in favor of the man equally well equipped. In other words, women chemists must be <u>good</u>.

There is nothing fantastic in the idea of a woman's becoming chief chemist of a large rubber company. In fact, I believe a woman does hold such a position. She had to be well qualified to win in such a competitive field. Women will never forget Madame Curie, of radium fame and winner of Nobel prizes in both physics and chemistry - and neither will the men. There will be others.

Although generally, as I have said, women have to be particularly well equipped to be accepted in new places and in new fields, there are branches of applied and theoretical chemistry where their sex may be an advantage. They entered some of these branches from related activities where they had already established themselves. I am thinking of home economics, dietetics, bio-chemistry in general, hygiene, and various specializations related to health and medicine. Women long ago took over nursing to the practical exclusion of men and used that position to step into a number of their present specialties. From the vantage point of actual home management they really made the profession of home economics. In such fields of professional work prejudice and other difficulties have melted away. Now it is not difficult to visualize a woman as head of the department of nutrition of a great university, but at present it may be difficult to visualize a woman as head of the department of chemistry of the Massachusetts Institute of Technology. Nevertheless, it is not beyond the realm of possibility.

There are many angles to this problem of opportunities for women with training in chemistry. The higher the position, the harder it is to get, but smaller jobs are steps leading to positions of trust. Women who know chemistry have a great advantage in acquiring positions as assistants to doctors and dentists where chemistry may not be a prime necessity but a decided asset. And the better positions in that field go to those with this superior training.

No matter what a chemist, man or women, has done to acquire a sound basis for professional standing, it is necessary to keep up with the tide of discovery, and often it is necessary to become acquainted with another branch of the profession because of change of employment. Consequently, training courses are necessary. This applies to some Federal research agencies as well as industries. Industrial concerns spend large sums on this type of personnel improvement work, and this brings me to mention a factor which is a disadvantage to women. Not many women, I understand, are admitted to these technical training courses of big industries because the training costs much money and there is the ever-present danger that marriage will take their employer's investment away. In the case of men, industry takes the opposite view, reasoning that marriage makes the employee more stable and the training investment more secure.

One of my co-workers reminded me recently of a case in which a man and a woman, both exceptional students in chemistry at the same college, obtained positions in chemical laboratories and began to rise in their careers. The man is now an outstanding director of research in industry and well known for his achievements. The woman is unknown as a chemist. She became the director's wife. But it doesn't always work out that way. Sometimes I hear of a woman chemist who has carried on her professional career and a domestic career also. I know of one who has three sons and another who has 11 children and has been running an engineering firm for years. But such cases, I take it, are not common. Industry takes account of its hazards, and I feel sure that most persons responsible for the direction of research laboratories, wherever they may be, will do likewise.

Nevertheless, if we can judge from the place they have already acquired in the profession, women are going to avail themselves more and more of the opportunities. They have proved the possibilities by doing much creditable work and by some conspicuous successes. I think they have made their best progress, as I have intimated in this talk, by advancing from professions already conquered into related ones. They may also find there are certain specialized fields far from those generally conceded as naturally theirs in which they can do exceedingly well. To illustrate I shall quote a passage by the late Dr. Henry S. Washington of the Geophysical Laboratory of the Carnegie Institution of Washington. In his work, the Chemical Analysis of Rocks, he wrote "It may be said that the analysis of rocks would seem to be especially suitable for women; whose characteristics of neatness, patience, application, care, conscientiousness, and attention to detail are essential to good analytical work. The author knows of five women who have made many

rock analyses, and has found the work of all of them to be uniformly good".

I see no reason why such foundation stones of character should not be just as useful elsewhere as in the analysis of rocks, but a high quality of training must be the superstructure. In Hatcher's Occupations for Women, published in 1927, there is something on this point. He says that opportunity for women in chemistry, outside teaching, is greater than in physics and possibly equal to that in biology, but is small. Men, he said, hold most of the important teaching positions in the highly accredited women's colleges, as well as in many others. It is difficult to foresee, he added, how much this will change, but he predicted no appreciable change in averages until the percentage of women chemists having maximum professional equipment is greatly increased. I agree with this statement.

Keeping up with the swift course of chemical knowledge is no small undertaking. Chemistry touches most aspects of present day life and in more and more ways, and that is an encouraging thing for all chemists. Change and growth are as noticable in agricultural chemistry as in other branches. What is going on now in the Bureau of Agricultural Chemistry and Engineering is a case in point. The Agricultural Adjustment Act for 1938 provided for the building and equipping of four regional research laboratories to carry on investigations to develop new and wider industrial uses for the product of the farm, particularly those that occur in surplus. These laboratories, which will cost approximately $1,000,000 each, are now under construction at Philadelphia, New Orleans, Peoria, and San Francisco.

When in full operation, each will employ about 200 scientists — chemists, physicists, engineers, biologists, and other specialists. In the beginning the Eastern laboratory will work on milk products, apples, potatoes, vegetables and tobacco; the Southern laboratory on cotton, sweet potatoes and peanuts; the Northern laboratory on corn, wheat, and agricultural wastes; and the Western laboratory on wheat, potatoes, vegetables, alfalfa, and fruits. There will be much fundamental research as well as work directed toward specific uses of various products. To give you a more definite idea of what we plan to do, and at the same time something of the nature of the opportunities for well prepared scientists, I will mention a few of the projects planned.

At the Northern laboratory the research on corn will include a project on motor fuels. We will see what can be done in making alcohol more suitable and more feasible for power, and we hope to find out more about the possibility of such solid fuels as starch. Internal-combustion engines can be run with dust fuels, but we want to know if they can be made dependable and economical. Also we want to know if glucose (corn sugar) has possibilities as fuel.

Some of our work will apply to various crops. A good example is research on starch, which is found in potatoes, wheat and some other products as well as in corn. I am not going to go far into these problems at this time, but I want to illustrate some of the studies expected of our research workers. We are planning to search for facts on the structure and composition of the starch molecule; differences between starches from various sources; properties of organized and disorganized starch granules and of starch derivatives, and their solution. Other angles include the conversion of starch derivatives, and modification of the surfaces of starch molecules. I could go on with this technical discussion at some length but I think I've given enough to let you know the nature of the work.

This new development in the work of the bureau - the four regional research laboratories - as I have said, offers many opportunities for persons equipped to do a high quality of research work.

If in those laboratories we employ the same percentage of women chemists as in the present divisions of the Bureau, that will mean thirty women in such positions. Of course I am not promising that we will hire that many. It all depends on how many women eligibles are on the proper Civil Service lists. All these positions will be filled through civil service examinations.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

EXTRACTS FROM "WOMEN CHEMISTS PLAY ROLE IN DETROIT PRODUCTION" By Helen I. Miner, Chemistry Department, Wayne University, Detroit, Michigan.

Source: Chemical and Engineering News, January 25, 1943, pp. 80 - 82.

World War I provided the initial stimulus for the first large-scale participation in scientific endeavor by women. In 1918 the number of women chemists in the American Chemical Society more than tripled the 1914 figure and enrollments in medical and scientific courses in the universities throughout this country were greatly increased. Since 1919 the number of women actively engaged in the chemical profession has constantly increased, and now there are approximately 1,200 women members of the American Chemical Society. . . . .

Parke, Davis & Co. has employed a limited number of women chemists in the research and vitamin departments since before the last war, but the number now working in these two departments constitutes approximately 11 per cent of all chemists employed in these two units as well as in the so-called chemical and analytical divisions. A number of others with limited chemical training combined with bacteriological experience are employed in the research and biological departments. Of the women chemists, two are analysts, three are in vitamin work, one has charge of the chemical library, and another is working in synthetic immuno-chemistry. The remainder do chemical work for the endoctrine and pathological chemistry sections.

At Gelatin Products Co., one of Detroit's most unique and rapidly growing industries, women chemists have been employed since its organization almost 10 years ago. This company is engaged in the manufacture of medicinal, drug, and vitamine products, synthetic chemicals, and finished products in plastic tubes, gelatin tubes, and soluble elastic capsules. Prior to and with the advent of the war the variety of materials capsulated has been greatly increased. The shapes and properties of the capsules and tubes have been altered to meet the varied and increasing packaging problems of a country at war. In this fascinating field approximately 35 per cent of the chemists are women who are employed in the chemical and biological control laboratories. Also a few women are engaged in organic synthesis, physicochemical and pharmaceutical research. Moreover, one pharmaceutical chemist is using her technical training effectively in the Production Planning Department. . . .

The Detroit Section for many years has included a group of women members who have been engaged in the fields of nutrition and medical research. The peacetime programs of these women chemists have been greatly curtailed as the opportunities for contribution to the victory campaign have arisen. Women are carrying on extensive research and study on such problems as feeding workers in industrial plants, feeding the children of working mothers, nutritional needs of specialized groups in the armed forces, and problems in nutrition associated with food conservation. Many women biochemists are giving much of their time to the national nutrition program which involves the dissemination of accurate and practical information to the public. Many are serving on state committees of the Office of Civilian Defense nutrition program; they are also giving refresher courses to prospective volunteers and are teaching Civilian Defense nutrition classes. In the recent Office of Civilian Defense Gas Officers' Institute the women chemists of the Detroit Section enrolled almost 100 per cent. . . . .

One woman held for several years a position in the engineering department of the Philadelphia Transit Commission on a city subway project, also along the lines of writing specifications and estimating costs. One woman is a statistician in the Industrial Department of the National City Co., another was connected with the Commercial Engineering Dept. of the N.Y. Edison Co. She was a graduate in mechanical engineering. One woman made a living by writing translations and abstracts of technical articles in foreign publications, but since the outbreak of war that work has been greatly curtailed. A woman is on the editorial staff of the Engineering-News-Record, in charge of the publication of daily market reports of construction work.

One mechanical engineering graduate has been associated with the development of air conditioning with the Carrier Corporation. Some have specialized in lighting and are connected with Gas & Electric Companies in research and marketing of home illumination and electric household appliances. I have heard of several women who have held important positions on State Bureaus of Public Roads, probably some political influence is necessary here. A few women have tried aviation, but so far without conspicuous success on the technical side.

There are new fields of research opening up all the time. The technical sides of color photography and television are new and interesting fields.

The positions I have described are single ones attained by individual effort. There is no easy road to a wide open field for women in engineering. In my own case I have a unique position with the Baltimore & Ohio Railroad, carrying the title of Engineer of Service. As far as I know I am the only woman permanently holding such a position with a railroad, and I owe my opportunity to the broadmindedness and foresight of our President, Mr. Daniel Willard. I was graduated from Cornell University in civil engineering and was appointed a draftsman in the Bridge Engineering Dept. of the B&O R.R. After fourteen months work here Mr. Willard offered me my present appointment which I have held continuously for more than 18 years.

My duties, generally speaking, are to observe the passenger service on our road and its competitors and make suggestions for improvement, particularly from the point of view of the woman passenger. With the opportunity thus opened to me, I had to create my own duties, find the things which needed investigation and could be improved, and then after creating the job, I had to produce some results in the way of creative suggestions. As you see, my own experience confirms my contention that a woman's opportunity in engineering lies in capitalizing as much as possible the woman's viewpoint she represents.

Of course, an engineering education is a great asset, even though one may not be engaged in strictly technical work. A number of women engineering graduates are using their education in teaching. Interesting is a recent book edited by R.W. Clyne, entitled ENGINEERING OPPORTUNITIES. It is published by D. Appleton - Century Co., and costs $3.00. While intended more for young men than young women, it throws some light on a number of new fields.

To summarize my personal viewpoint in the world of industry and commerce, a woman who undertakes a career in such a predominantly masculine field as engineering has no easy road to success. Her ability to succeed depends very largely on her own initiative, resourcefulness, and a cooperative attitude rather than the militant one of demanding equal rights.

U. S. Department of Labor
Women's Bureau
Washington

Selected Newspaper Items in Regard to Jobs Women Were Doing in Wartime in the Field of Chemicals

The number of workers at the T.V.A. nitrate plant has been increased from hundreds to thousands, while many men have been drafts. Women are taking their place. Those with college training have been put to work at the more difficult scientific and engineering problems. Others operate the compressors, watch the gauges, and check the proportion of chemicals that go into production of ammonia. (Nashville Tennessian, May 23, 1943)

At present at the new Government plant at Institute the following women are employed on the technical staff: One graduate chemist, 5 college graduates with some technical training who are functioning as technical clerks, 20 high school junior analysts, and 8 high school physical rubber testers. At full capacity it is expected some 50 girl analysts will be employed. The high school girls were given a course of about 4 months at the Mercer School in Charleston under graduate supervision. (Chemical and Engineering News, June 10, 1943, p. 877)

A new ammonia plant has been operating at Wilson Dam for 11 months and an ammonium nitrate plant 18 months. Pictures show a woman making records from a hydrogen section control board, another working with a battery of gas sampling and analyzing equipment. (Chemical and Engineering, News, July 25, 1943.)

Standard Oil has a new 100 octane gasoline plant nearly ready to go into production at Richmond, Calif. Hundreds of women will be needed at this plant. They will be paid $7.24 a day during a two-week training period, then $8.30 and later $8.71. Already Standard employs 1,090 women at its Richmond refinery. The actual work is simple. Women gauge tanks, operate pumps, draw samples, read gauges, operate stills and control instruments. There are three shifts and workers change shifts every week, taking each in turn. Civic groups are to make a house-to-house canvass in the area to recruit workers. (Oakland Tribune and San Francisco News, Oct. 3, 1944.)

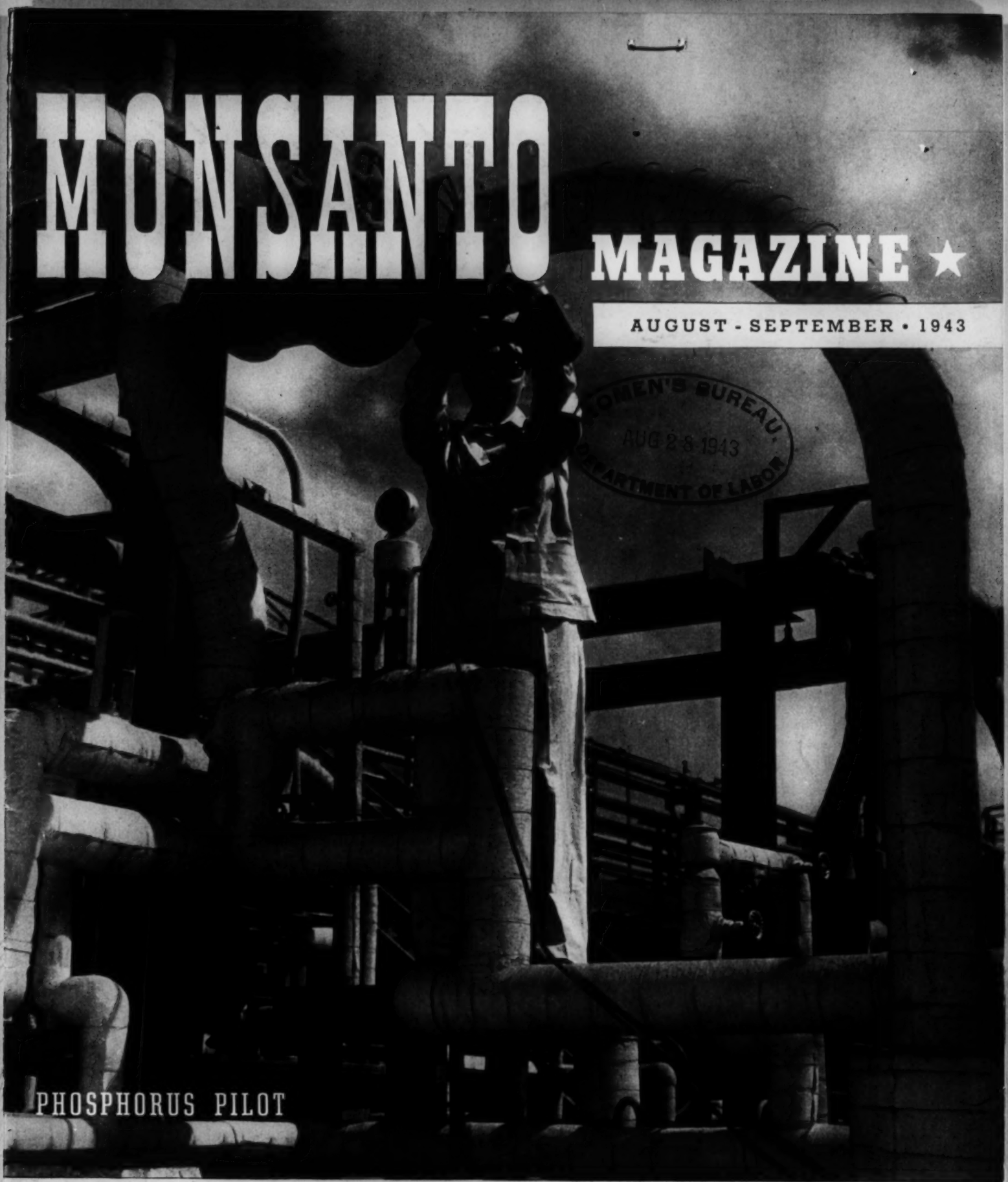
California - Research

A woman in the testing laboratory of Consolidated Vultee was among those testing between 50 and 100 sealing compounds for airplane tanks. When all proved unsatisfactory, lab workers were given the problem of developing a combination that would produce a perfect seal. Mrs. Fuller was the first to produce such a material and was given complete charge of developing and testing the material which is now ready to be used in cargo planes. (St. Joseph, Mo. News Press, Feb. 13, 1944)

MONSANTO MAGAZINE ★

AUGUST - SEPTEMBER • 1943

WOMEN'S BUREAU
AUG 28 1943
DEPARTMENT OF LABOR



PHOSPHORUS PILOT

IN THIS ISSUE:

SOUTHERN PLENTY FOR POST-WAR PLOWSHARES *by Robert R. Cole*

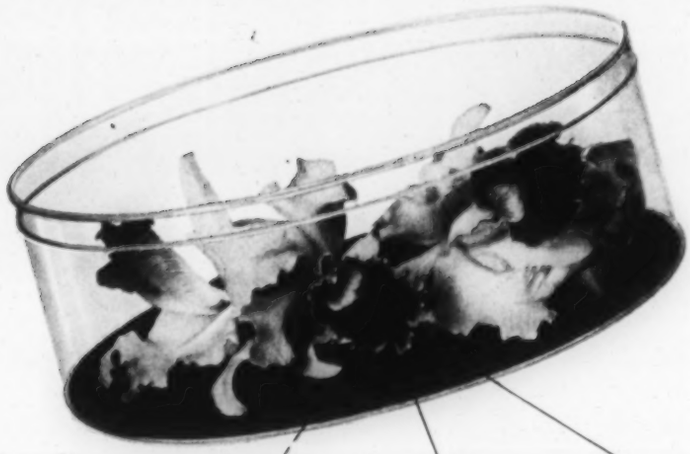
THE GIRLS ARE DOING VERY WELL, THANK YOU *by Loretta Moushey*

Maybe you've wondered . . .

Whatever happened to Vuepak?

It wasn't long ago that you saw Vuepak everywhere. Remember? In glamorous transparent flower boxes, in smart counter displays, in "see at a glance" boxes, canisters, containers for quality products of almost every description. **And then, with war, packages of Vuepak disappeared from the counters . . . and the name that was fast becoming a part of the language ceased being heard on every side.** Perhaps you've wondered why? This is an answer . . . *and a promise, too,* that after victory Vuepak will be back to lend matchless protection-with-visibility to the better products you'll buy in peace with those War Bonds you're getting now.

MONSANTO CHEMICAL COMPANY (Executive Offices, St. Louis) Plastics Division, Springfield, Mass.





WINDOWS and skylights of trainer planes and gliders, made of non-shatterable heavy gauge Vuepak, give testimony to its toughness, rigidity and flawless transparency. All these are but a few of the present day jobs Vuepak is doing . . . until it can return to its original job, packaging the better products of a better tomorrow.



EYESHIELDS of Vuepak, colored to cut down desert glare. Goggles with interchangeable Vuepak lenses to meet varying conditions of sea, air and land fighting. Millions of sturdy eye pieces for gas masks. Just three more of the many wartime jobs being shouldered by Vuepak.



VUEPAK, in heavy gauge weights, goes today into face shields to help avoid many lost-time accidents in essential war industry. Laminated to wire, it also can replace glass in the windows of essential war plants, preventing the danger of flying slivers from possible bomb explosions.

MONSANTO PLASTICS



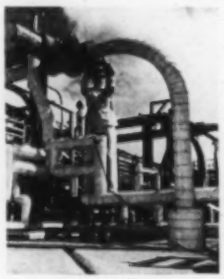
"E" FOR EXCELLENCE—The Army-Navy "E" burgee with two stars, "representing recognition by the Army and the Navy of especially meritorious production of war materials" over a two-year period, flies over Monsanto.

SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO MAGAZINE

Contents ★ Aug. • Sept., 1943 ★ Vol. XXII • No. 4

Southern Plenty for Post-War Plowshares. *By Robert R. Cole* 4
Going to Work at the Trenton Plant 10
The Girls Are Doing Very Well, Thank You. *By Loretta Moushey* ... 12
Chemical Quiz 15
Palm Reading the Hand of Mars 16
The Road 18
Pass Friend 22
Improving the Chances of Being Saved 24
Do You Know 26
Greater Monsanto 27
Southern Fried Chicken 30



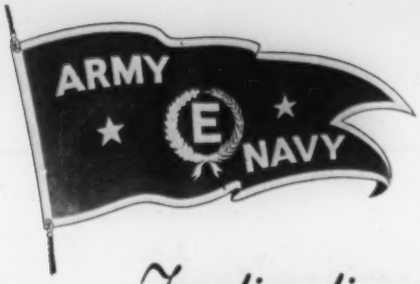
ON THE COVER:

In a setting of pipes which form pleasing patterns, Lorraine Stafford, a young woman operator at the Monsanto, Tennessee, plant, turns valves that direct the flow of elemental phosphorus stored in underground tanks. Pumps operated by Miss Stafford send phosphorus to tank cars and drum loading stations.

Published by Department of Monsanto Practice, Monsanto Chemical Company, St. Louis, U.S.A. Editorial Board: Chairman, James W. Irwin; Sam M. Ballard, James C. Kiper, Howard A. Marple, Loretta Moushey, Edgar M. Queeny.

Editor: Howard A. Marple. *Associate Editors:* Wayne Brinkerhoff and John H. Leach. *Chief Photographer:* Robert E. Fisher.

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Fractionations

Last year in Monsanto Magazine, Loretta Moushey talked about "Womanpower," and we thought it was about time that we brought you up to date on what the girls have been doing in industry lately. That first story, by the way, was widely reprinted and caused a lot of investigation by other companies into the womanpower situation. Mrs. Moushey was busy answering questions about her program, which literally scores of manufacturers adopted, and for a while she considered adopting the blazing slogan, "Every Day is Ladies' Day Now."

Seriously, when women go to work in Monsanto's plants and laboratories, handling jobs never before attempted by one-time or potential homemakers, they have a staunch friend in the company's headquarters watching out for their interests. Mrs. Moushey is no slouch in her field. As Monsanto's assistant director of industrial relations, she considers Monsanto's girls as her No. 1 responsibility, although she coordinates all personnel policies and supervises the employe opinion research, Monsanto News, employe handbooks and other sections of the industrial relations department. Her story, "The Girls Are Doing Very Well, Thank You" on page 12, will open your eyes a little wider to the capabilities of women in industry.

★

A lot of people seem to have the idea that when a woman goes to work in a chemical plant turning out materials for war, the little lady simply steps up to the personnel manager and says "Okay, Bud, I'm ready to start. What do I manufacture first?" It's not quite that simple. Women have never worked in chemical plant operating jobs before, so a lot of preliminary ground-breaking goes on before she's ready to start learning. Look on page 10 for some of the things a potential woman employe goes through before she works in a chemical plant.

★

The sixteen southern states of this great country are literally a cornucopia of plenty. Today and the days following this war, Dixie presents this nation's greatest opportunity for industrial development. Raw materials, power, transportation and labor are abundant and accessible. Because the population has been characterized as over 90 per cent American—and we unashamedly quote the South's great crusader *Manufacturer's Record*, "The south is the outstanding bulwark of Americanism."

The late Dr. Henry G. Knight, former chief of the Bureau of Agricultural Chemistry and Engineering of the United States Department of Agriculture, said to our liking, "My guess is that chemistry is going to affect the future of the South, a great deal more than it has in the past." This has already been demonstrated and in our leading article "Southern Plenty for Post-War Plowshares" the author, Robert R. Cole, gives tangible evidence.

★

In this issue we managed to raise just a corner of the curtain on the postwar future and we present a brief but thought-provoking glimpse of the things that are *now* being done with new materials and designs we have *today*, but which you probably won't see or use until some time after the fighting is over. Remember, these new uses for plastics are here now, this is not some more fuzzy day-dreaming by half-baked artists. You can count on these things as facts. For your peek into the near future, see "Palm Reading the Hand of Mars" on page 16.

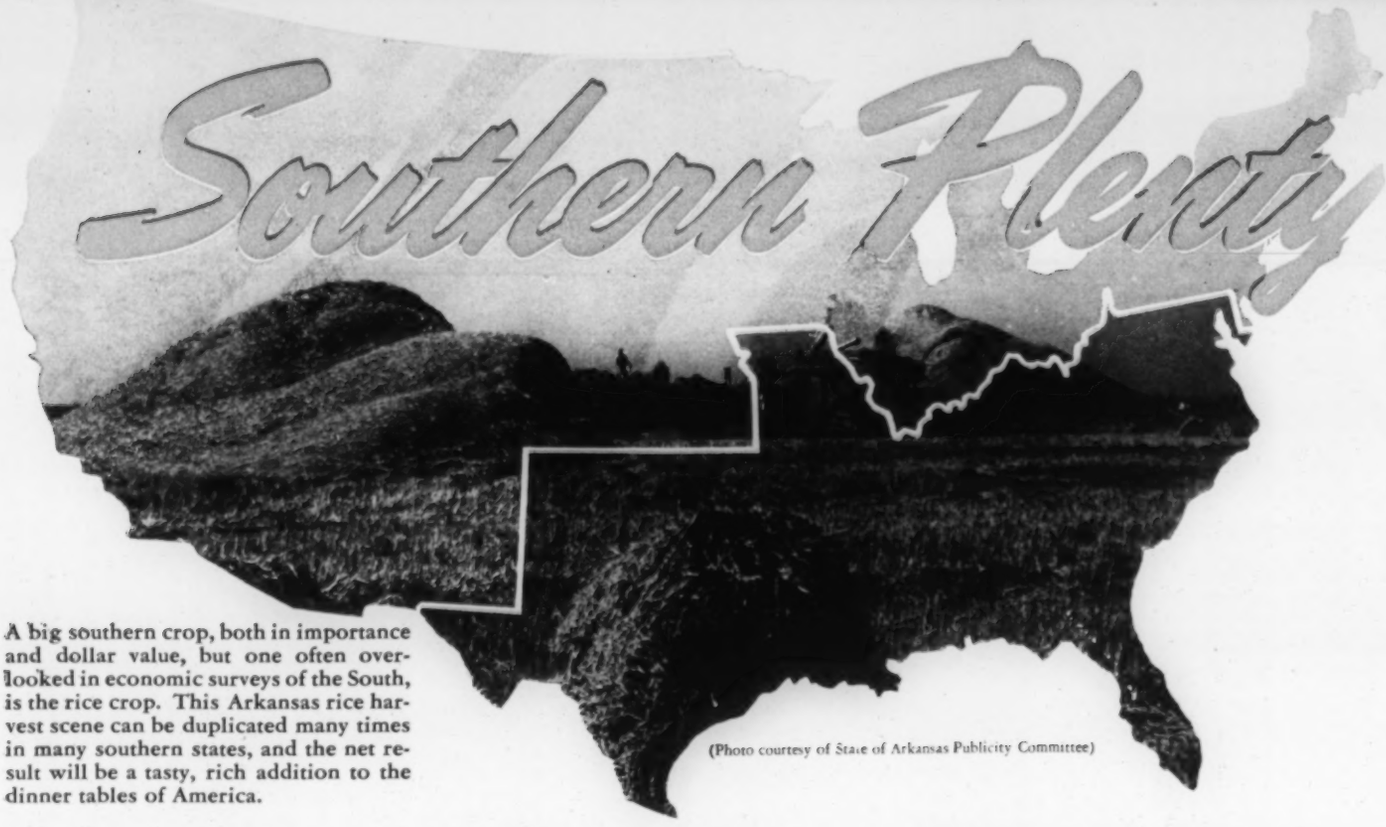
★

When we were working on the story, "The Road," our yarn on the now-famous Alcan highway, three of us—cityfolk all—formed a corporation. We are called the Alcan Inn, Inc. The Inn will be located atop an imposing hill overlooking a rushing stream and we will cater to those thousands of tourists who will trek up to Alaska over what is now the most important military highway in America. We'll clean up.

That's an example of what the study of maps and strange places can do to a deskbound editor. Read "The Road" on page 18 and see if it happens to you.

—The Editors

Southern Plenty



A big southern crop, both in importance and dollar value, but one often overlooked in economic surveys of the South, is the rice crop. This Arkansas rice harvest scene can be duplicated many times in many southern states, and the net result will be a tasty, rich addition to the dinner tables of America.

(Photo courtesy of State of Arkansas Publicity Committee)



Robert R. Cole

Soft-spoken Southerner, Robert Rast Cole, vice president of Monsanto Chemical Company and general manager of Monsanto's Phosphate Division, knows phosphorus from the ground up. He tames electric furnaces as easily as he does his favorite colts.

A mechanical engineer from Cornell, he was apprenticed in the locomotive shops of the Central of Georgia railroad at Macon, Georgia; became assistant superintendent of the Southern Wheel company at Savannah in 1914; and in 1920 became general superintendent of the Southern Manganese corporation, predecessor organization of the Swann corporation at Anniston, Alabama.

A magazine writer once investigated Anniston and obtained from Mr. Cole the most interesting and thorough history of the town. "Rush," as his friends call him, is as painstaking in everything that tempts his talents.

Expert in engineering and phosphate production, Mr. Cole spent the years of 1928 and 1929 in France constructing a plant for the Société des Phosphates Tunisiens.

When Swann corporation was absorbed by Monsanto in 1935, Mr. Cole became assistant to the late R. J. Hawn, vice president.

Today, Mr. Cole, like the meaning of the name phosphorus, is a "Light-bearer" in more than his successful activities at Monsanto. He loves the South enough to ardently evangelize its history and potentials. Right now he is selling Dixie to any attentive listener—and that includes editors and readers.

The Southern States Industrial Council, of which he is the president, is composed of the leading southern industrialists and businessmen of fifteen Dixie states. Right now he quietly, but with Cole effectiveness, is guiding the industrial South's expansion.

Too few citizens of this country who reside in the 16 Dixie states fully realize the economic and social potentials of their own vast territory. Even less conscious of this are Northerners and Westerners, for the majority know the South only through Stephen Foster's—a Northerner, by the way—lyrical songs of "Suwanee River," or "Old Black Joe," or historical best-selling novels like "Gone with the Wind."

But the South, flush with war contracts amounting to nearly 18 billion dollars, dotted with immense training camps, droning with the heavy traffic on new flying fields, and surging with the movement of war workers, is doing more to correct this knowledge deficiency than all the speeches and promotional literature of the last 50 years. The youthful, resourceful business and industrial brains of America are beginning to realize more Southern ideas that, when materialized, will blossom in a post-war world. Though the South, in her romantic anti-bellum days, had the same natural resources and potentials, it takes the present maladjustment to recognize them.

FOR POST-WAR PLOWSHARES

The Natural Resources and Opportunities of the South Are Peace Potentials

By Robert R. Cole ***Vice President, Monsanto Chemical Company and President, Southern States Industrial Council***

Silver-tongued Southern Gentleman Henry W. Grady 50 years ago eulogized and prophesied for his beloved South. "Far to the South," he said, "lies the fairest and richest domain on this earth. Of the three essential items of all industry—cotton, iron and wood—that region has easy control. In cotton, fixed monopoly; in iron, proved supremacy; in timber, the reserve supply of the Republic. From this assured and permanent advantage, against which artificial conditions cannot much longer prevail, has grown an amazing system of industries. Not maintained by human contrivance of tariff or capital, afar off from the fullest and cheapest source of supply, but resting in divine assurance, within touch of field and mine and forest, this system of industries is mounting to a splendor that should dazzle and illumine the world."

This gentleman from Georgia, like many prophets, sang to a wilderness that needed ship building, gun making and shoulder rubbing to awaken it to realization and action. The minerals were there; the miner absent.

The South may be the land of cotton and trees, but out of its resources last year over three billion dollars worth of minerals were mined; almost half of the entire country's estimated recovery of 7½ billion.

Today, nearly 45 per cent of the nation's minerals are coming from the South:

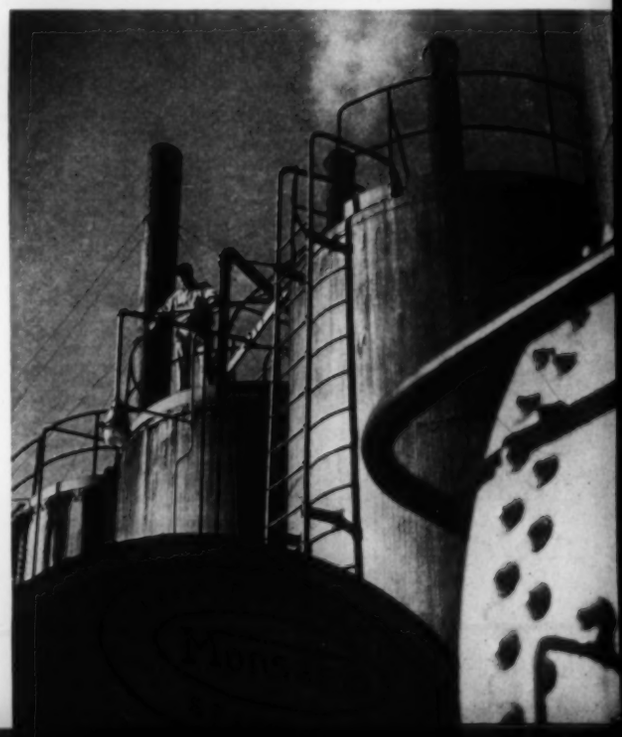
Bauxite	100%
Sulfur	nearly 100%
Phosphate Rock	over 95%
Ball Clay	over 95%
Barite	over 90%
Carbon Black	over 90%
Kaolin	nearly 90%
Fuller's Earth	nearly 90%
Natural Gas	over 70%
Mica	over 70%
Natural Gasoline	over 65%
Petroleum	nearly 60%
Bituminous Coal	nearly 50%
Fluorspar	over 45%
Lead	over 40%
Feldspar	over 35%
Stone	over 35%
Zinc	nearly 35%
Limestone	nearly 35%
Lime	nearly 35%

Over half of these are the raw materials of a chemical world and Monsanto is an active citizen who not only uses them in eight Southern plants, but looks to them to feed essentials to its 11 Northern operations. In Texas, Monsanto uses the products of petroleum and sulfur; in Alabama and Tennessee, phosphate rock and petroleum; in Missouri, petroleum, zinc, lead, lime, Fuller's earth, natural gas; in West Virginia, petroleum products, natural gas, bituminous coal; and in Virginia, natural gas.

Evaluation and statistics on the chemical process industries always tangle and become confused until clarified with a breakdown classification. Best, but none too good, are the four groups classified by the Bureau of the Census. These are Chemicals and Allied Products, Products of Petroleum and Coal, Paper and Allied Products, Stone, Clay and Glass Products. Accepting this, then, these Southern chemical processing industries annually manufacture products valued at $2,751,850,000. That's almost as much as the *total capital* invested in *all Southern manufacturing* 30-odd years ago.

Chemistry and chemical production in America was needled by necessity in World War I, but because it was nourished, trained and encouraged during the last 25 years by a nation predominately free, the Axis scourge is finding us not as soft as expected. The South

A great southern industrial installation is Monsanto's John F. Queeny plant in St. Louis where many industrial chemicals as well as medicinals and pharmaceuticals are manufactured in mass quantities.





Monsanto's plant at Norfolk, Virginia, manufactures an important intermediate chemical for the production of fine pharmaceuticals and is just one of the thousands of industrial plants below the Mason-Dixon line producing for military victory and the new age of prosperity in the South.

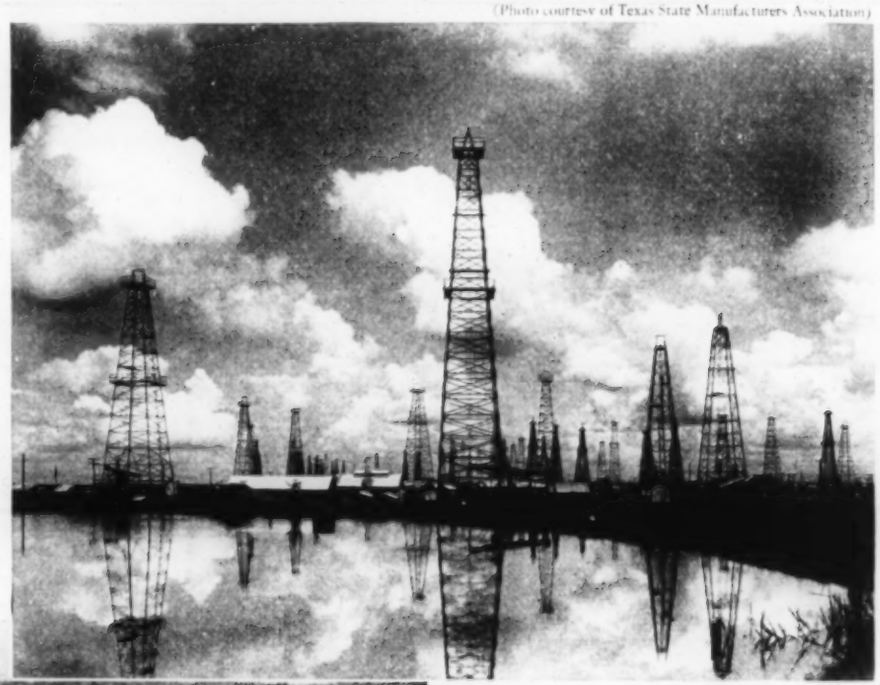
is not slothful, indolent or unimaginative. It is measuring up now and will do so in peacetime.

Down South today American industry is making chemicals, aluminum, magnesium, smokeless powder, TNT, DNT, phosphoric, picric and sulfuric acids, phosphates and petroleum products. Interlaced with these are industries producing pulp paper, rayon, glass, alcohol, synthetic rubber, plastics, paints and pharmaceuticals. Practically all of the raw materials of this ever-growing chemical industry are Dixie's natural legacy, an inheritance that is being nurtured by American enterprise. They are creating a huge Southern aluminum industry and are encouraging the world's record offspring, a synthetic rubber giant. It's Tennessee and Florida for aluminum and phosphorus, and Texas and Louisiana for synthetic rubber. Industrial expansion and production are going forward as never before. Southern potentials—meaning resources, power, labor and transportation—are good, which augurs well for

(Photo courtesy of Virginia State Chamber of Commerce)

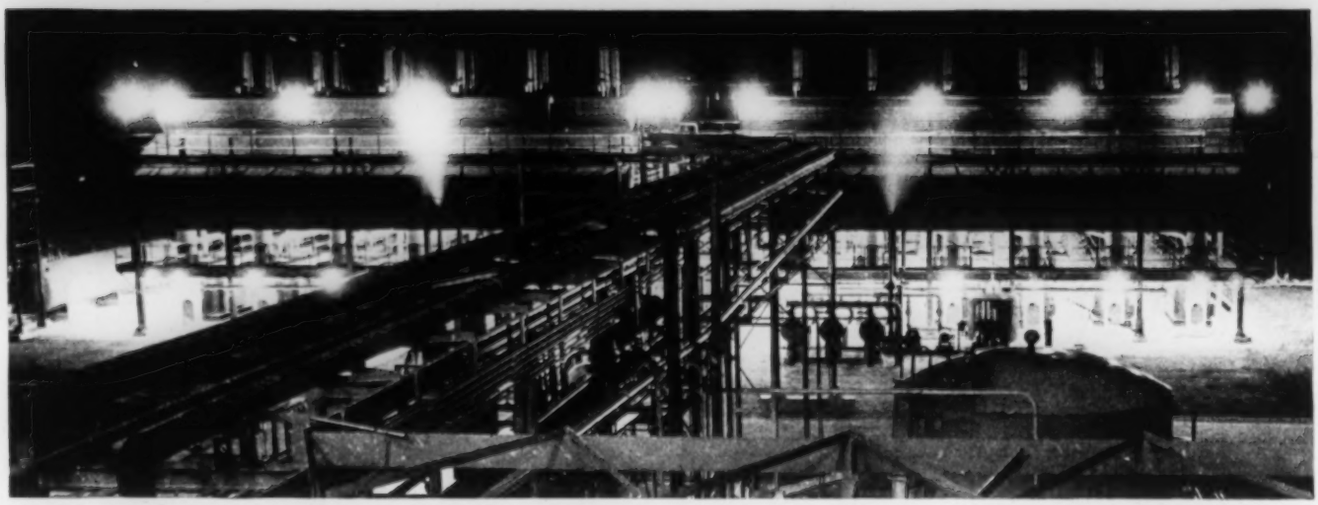
For decades the South has been the scene of the world's most fabulous and productive search for oil, and the search still goes on today. This picture shows the skyline of the Spindletop field, the oil strike that made Beaumont, Texas, famous.

(Photo courtesy of Texas State Manufacturers Association)





Tobacco valued at $297,895,000 was grown and marketed in the South in 1941, and plantations such as this one near Danville, Virginia, grew the choice leaf and drew the top prices for their crops. Tobacco is one of the South's basic products, stable in both war and peace.



One of the South's outstanding contributions to war production is its styrene and butadiene program for the manufacture of synthetic rubber. Shown here is one view of Monsanto's Texas City plant which is turning out a vital percentage of the styrene needed in the entire rubber schedule.

its participation in the fight for peace.

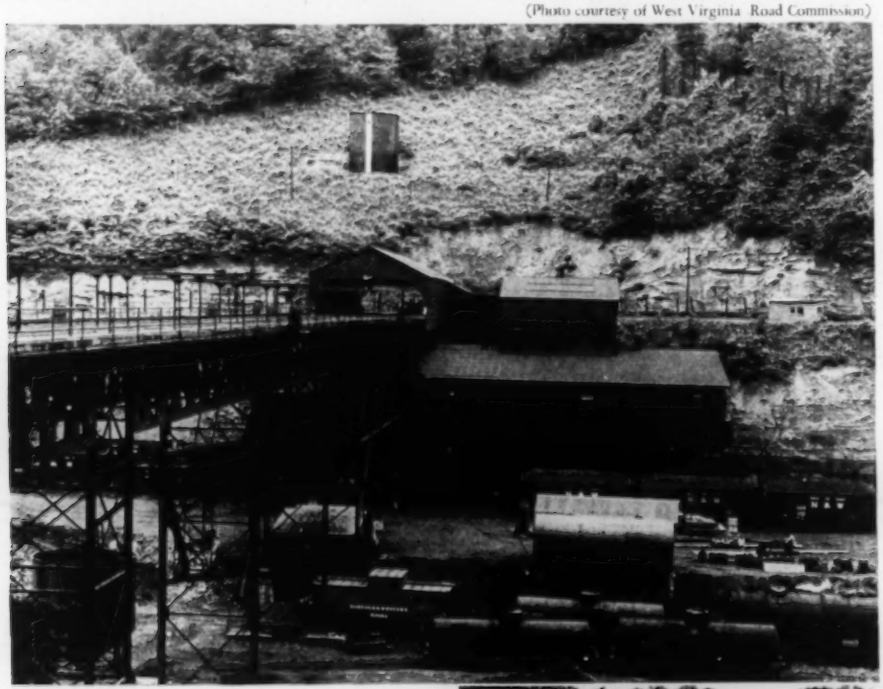
The oldest, untiring champion of Southern industry, the Manufacturers Record, in 1941 predicted, "Where this (chemical processing) will lead none can tell, but with the South's present chemical process industries having an annual output value closely approximating 30 per cent of the natural production (before Pearl Harbor) it is reasonably safe to predict that by 1950 one half or more of the country's chemical production and chemical process industries will be south of the Mason-Dixon line." The Manufacturers Record also offers the accompanying breakdown of each southern state's growth as the basis for their prophecy. Necessary censorship prevents a more up-to-date (1942–1943) summary.

Iron ore may not be a chemical, but it is basically a chemical element. Iron ore at any place in the world is the red corpuscles of both war and peace. Recently predictions placed on the United States economic geological record state that "Minnesota iron deposits of high grade ore would be exhaust-

(Photo courtesy of Lake County, Florida, Chamber of Commerce)

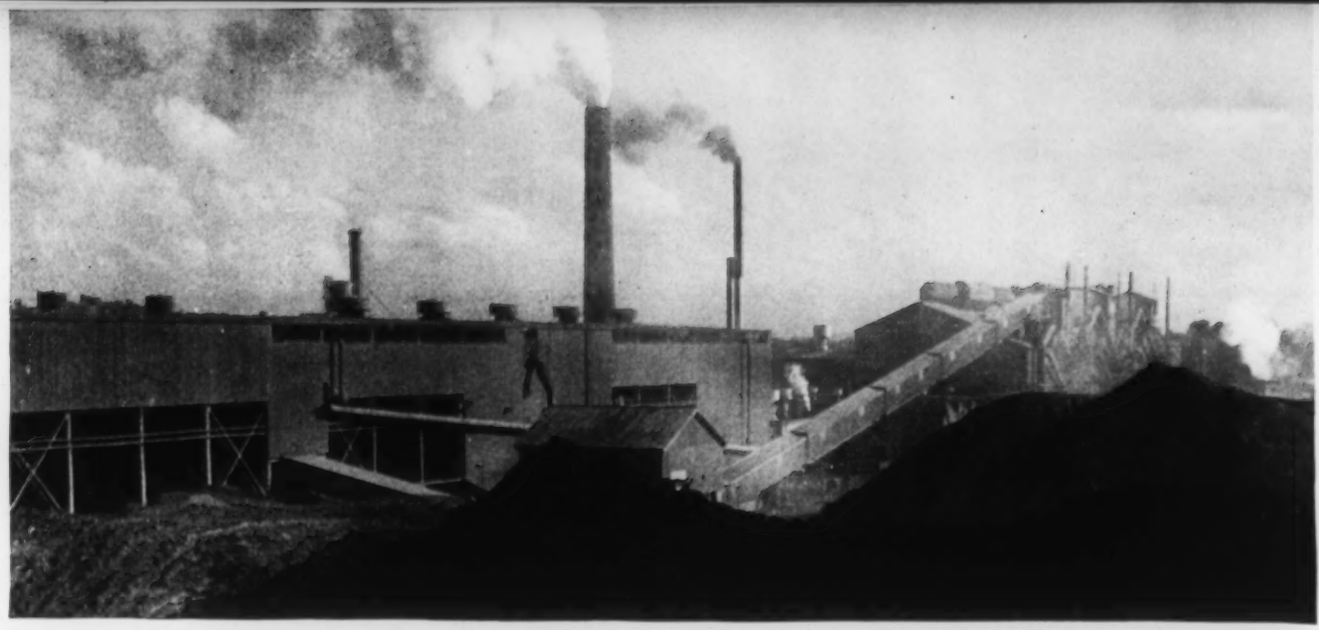
The United States today is more conscious of the necessity of coal production than ever before in its history, and the coal to run our war industries comes, in a large measure, from large and efficient mines like this West Virginia installation. The latest production figures show that in 1941 West Virginia alone produced 140,886,000 *tons* of coal.

(Photo courtesy of West Virginia Road Commission)



Cotton has long been king in the South, and the present cotton production has been increased to fill the gaps left by the withdrawals of other textiles. Cotton's part in war is vital, but its part in the peacetime economy will be even more important and far-reaching.





One of the largest operations of its kind is located at Monsanto, Tennessee, where low-grade phosphate matrix is mined and then refined electrically to produce elemental phosphorus. This picture shows the two main operating buildings of the Monsanto plant.

ed in 20 years." Conservative Assistant State Geologist Steward J. Lloyd of Alabama says of this, "Minnesota will not run out of iron ore, but will run out of *low cost* iron ore in at least a generation." Questioned about the Southern states' deposits, he continued, "Northeast Texas contains brown iron ore somewhat similar to the brown iron ores of Alabama. Estimates run from 100 million to 200 million tons, but the ore is scattered over a wide territory. In Alabama we have two kinds of iron ore in actual use and one which may be used later.

"Red ore (Birmingham-Bessemer area) One billion tons of accessible ore of present quality, one and a half billion tons of lower grade ore.

"Brown ore (scattered through Alabama) probably 100 million tons. A recent prospecting campaign conducted by the State Geological Survey has disclosed larger tonnages in South Alabama.

"Grey ore (Talladega County only). None being mined this year. In 1905, about 25,000 tons were taken out. Higher in iron than red ore.

"Some people have asked me if the approaching depletion of the Minnesota ores will not lead to increased production in Alabama. I am inclined to believe we shall have a more *steady* rate rather than a large increase."

The gods of the mineral world smiled fortunately in Alabama, for the Birmingham area is the *only* place in the world where coal, lime and iron are found close together.

But, cotton is still king in the South. Intelligently interwoven with its production is an interlarding of crops which materially adds to the region's economy by increasing the number of profitable crops and at the same time, by rotation, safeguards the fertility of the land. Cash farm income in 1941 increased 34 per cent against a 28 per cent increase throughout the rest of the United States. When the farmer prospers there is a spread of his prosperity to business and industry.

Southern leadership in textile manufacturing is irrevocably proved by numbers of bales of cotton used by the spindles of the South. In one year (1941) over eight million bales of cotton were utilized in the South while the remainder of the country consumed only one and one-half million bales. The by-products of cotton, like cottonseed oil, cake, meal hulls and linters, weighted the Cotton King's revenue by over 150 million dollars in 1941.

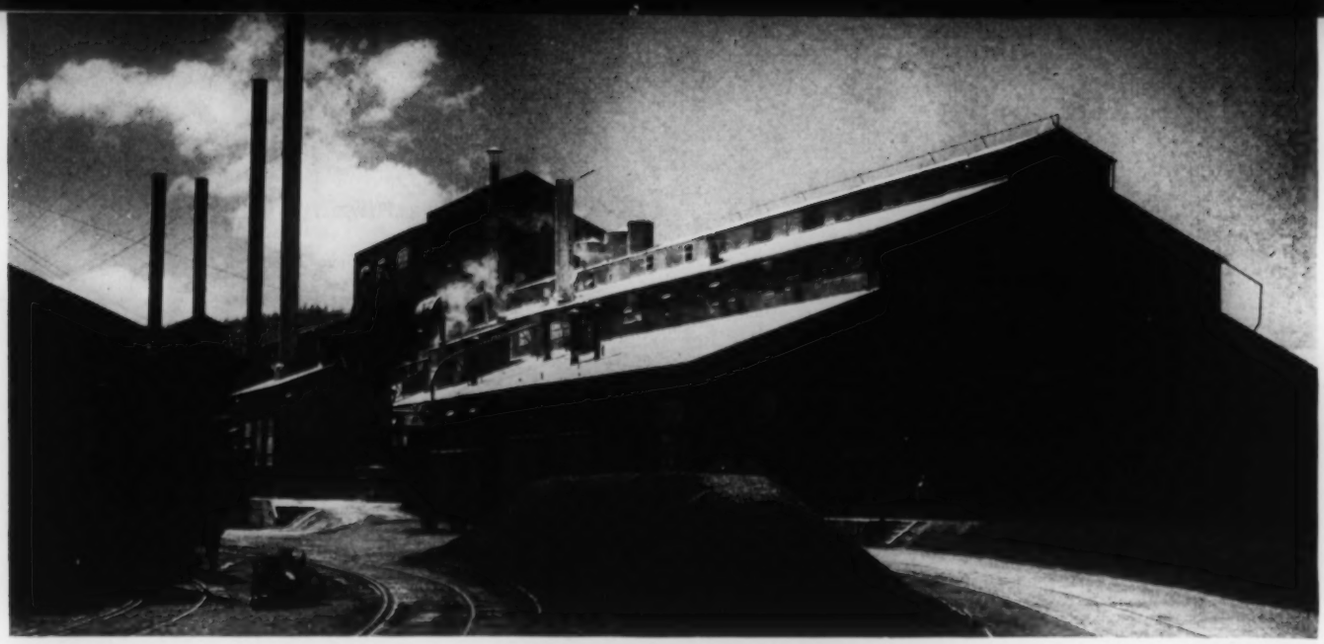
In one year the income from tobacco amounted to an increase of over 80 million dollars; from sugar cane an eight million increase. The Southern States, with approximately one-third the population and area of the rest of the country, received 46 per cent of the total cash income of all agricultural products in one year.

Akin to agriculture is forestry and lumbering. No survey of forestry in the South can be complete without a board foot measurement to show its magnitude. Out of the total of almost 19 billion board feet of lumber sawed

Statistics below from *Manufacturers Record* 1941

STATE	ALABAMA*		ARKANSAS		FLORIDA		GEORGIA		KENTUCKY		LOUISIANA		MARYLAND		MISSISSIPPI	
INDUSTRY GROUP	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)
Chemicals & allied products	183	43,775	49	20,304	315	27,557	714	69,793	56	16,750	108	54,182	167	103,736	93	33,898
Paper & allied products...	11	31,331	9	5,364	13	23,971	30	28,591	11	2,941	33	50,109	45	20,398	5	3,386
Petroleum & coal products.	14	26,593	9	15,054	1	590	7	3,157	16	35,086	17	113,973	15	40,162		
Stone, clay & glass products	88	17,158	23	4,497	96	7,904	105	13,264	83	10,206	47	17,678	138	22,706	32	7,890
Total.....	296	$118,857	90	$45,219	425	$60,022	856	$114,805	166	$64,983	205	$235,942	365	$187,002	130	$45,074

*States in which Monsanto has plants



This Monsanto plant lies deep in the south and is a key operation of Monsanto's Phosphate Division. The Anniston, Alabama, plant uses the elemental phosphorus produced at Monsanto, Tennessee, to produce phosphoric acid, ferro-phosphorus and phosphate products as well as many important war chemicals.

in the United States in 1941, the South cut over 14½ billion. Of all the timber cut in the United States, 46 per cent comes from Dixie. The value of woodpulp in one year (1939–1940) increased over 43 million dollars. Contrasted with the wood pulp dollar-value of the rest of the United States, the Southern States produced over 100 million dollars worth, the remainder of the 48 states about 190 millions.

Intricately tied in with the many progressive industrial movements of the southeastern section is the power development of its rivers. The Tennessee project is one of these.

Efforts to harness this great river with a giant network of dams began during World War I when Muscle Shoals was developed for wartime purposes. Then came years of fretful political and industrial progress until today huge war plants are roaring with the production of aluminum, chemicals and many other swords of war. Aluminum and chemicals, though today used almost entirely for war purposes are primarily the foundations of a progressive world of peace.

There are 122 counties in seven states that are within the Tennessee watershed and are benefited by its development and resultant industries. The United States census of manufacturers in 1939 shows that between 1933 and 1939 there was an increase from 1,348 to 2,069 manufacturing plants in this territory, the number of wage earners increased nearly 42 per cent, the dollar amount of wage increased 85 per cent, the value of products more than 98 per cent.

Today the valley teems with greatly increased statistics far beyond prewar days, but naturally, these are unobtainable.

The huge pool of electrical energy is the Tennessee system, which has helped in a very material way to increase the economic activity and social betterment of the entire South. Although the valley is not at full maturity, nor is the industry which shares its power, nevertheless, the Tennessee area will have national value in a post-war struggle. The development of the Tennessee River's power is extremely timely. Looking into the future we can see the new and growing industries of today using still more of the energy available in these southern rivers.

Not only the power to make but the advantages of transportation are helping Southern development. Contrary to general misconception, the railroads in the South have been and are cooperating with this steadily growing industrial area. Manufactured articles, made from the abundant natural resources of the South are shipped at no greater rate differential than on the same articles within the North. It is a fallacy that Southern freight rates are "differentially" higher than Northern rates. Where the small differences exist, quite often these favor the South and thus add their encouragement to Southern enterprise.

When the world again calls for plowshares, the South is a manufacturer to be reckoned with. It will be there with plenty in a post-war world.

MISSOURI*		N. CAROLINA		OKLAHOMA		S. CAROLINA		TENNESSEE*		TEXAS*		VIRGINIA*		WEST VIRGINIA*		SOUTH	
Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)	Number of Establishments	Value of Products (000 dollars)
289	99,223	163	50,678	75	10,976	160	21,318	131	128,011	346	78,255	130	123,308	42	84,577	3,036	967,617
80	31,668	36	26,022	5	1,564	13	19,924	33	18,608	33	10,704	50	52,679	16	10,752	430	341,280
23	11,817	1	1,199	28	106,935	3	1,752	6	2,308	116	699,117	10	4,205	18	19,584	285	1,081,595
182	85,084	115	12,123	59	12,657	49	7,335	108	20,676	228	29,977	127	16,859	144	70,311	1,643	361,358
574	$227,792	315	$90,022	167	$132,132	225	$50,329	278	$169,603	723	$818,053	317	$197,051	220	$185,224	5,374	$2,751,850

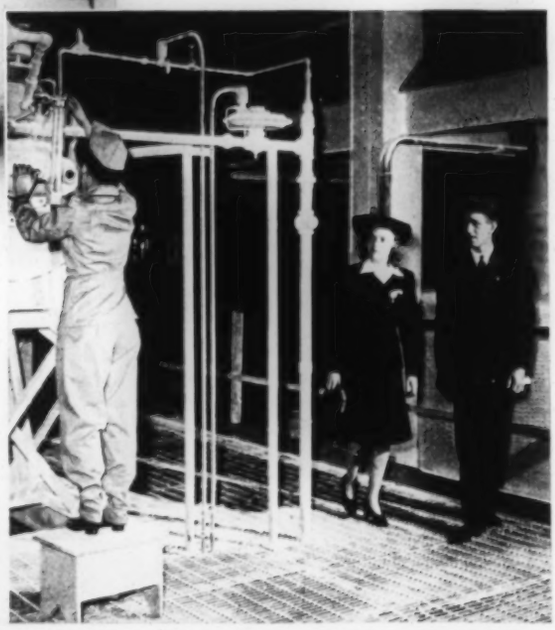
GOING TO WORK

At the Trenton Plant



A job with Monsanto was the primary aim of Maxine Eyster, who moved into the highly industrialized city of Detroit when her sailor husband was stationed at Grosse Ile. She filed her application at the Trenton plant, situated a few miles outside the metropolitan area. After she fills in all the blanks on her application sheet, would-be-employe Mrs. Eyster is interviewed by Tommy Tucker, Trenton's personnel manager.

PHOTOS BY ROBERT E. FISHER



Continuing on their tour, Tucker and the applicant see a woman who, among her other duties, checks furnace temperatures. Tucker points out the fact that a small stool is provided for the woman, eliminating any necessity for undue stretching.



Before any woman is hired for work in a Monsanto plant, she is given the opportunity to inspect the environment in which she will work and the kind of job she will do. Tucker takes her through the plant building and introduces her to Foreman D. D. Hammett who would most likely be her superior should she accept the job and Monsanto accept her. "Mr. Foreman, this is Miss Applicant."

A Picture Story of the Indoctrination of a Young Woman at Monsanto



Maxine then sees a job which she might hold some day. She learns that taking readings and keeping accurate records is a job which is handled by women almost exclusively in their posts as assistant operators.



Both the personnel director and the applicant are satisfied with what they have seen. The young woman's acceptance for employment now depends on her passing the physical exam. The plant physician X-rays her chest, makes a blood test, weighs her, gives her a general physical check-up.



Trying on her uniform (designed, by the way, by Loretta Moushey) for the first time is an important moment for new employe Maxine Eyster. She adjusts her cap at a modish angle, her identification badge pinned securely at the proper spot. She has tucked her hair up under the cap as a safety measure, and notes that it is becoming as well as smart.

Within the plant building, and only a few feet from the work area, is a lounge and rest room where girls may relax and chat, smoke and coke, recuperating from their work. A short rest period is provided twice during each shift.



Her first day of work over, Maxine leaves for home, a little tired by work which is not quite what she is used to, but completely satisfied with her new job. The safety sign over the gate is indicative of constant vigilance by both management and employes to keep accidents down. Maxine Eyster feels that she is now a full-fledged Monsanto employe.



Actually on the job, Maxine meets the plant manager, Edward A. O'Neal Jr., who stops by her work to learn how she likes her job. She finds that stenciling bags is a fairly easy job and interesting. The plant manager makes frequent tours in order to keep in touch with employes and the actual job.





With the technique of an old hand, Celia Binder, of the laboratory staff of the Monsanto, Illinois, plant, employs a "thief" to take a sample. This woman knows that there is more to sampling than bringing to the laboratory a bottle of acid.

The Girls are Doing Very Well, THANK YOU

With virtually every magazine in the nation dedicating its September issue to women in war work, the editors of Monsanto Magazine suggested it would be appropriate that we make a progress report to our readers on the women who, in ways operating men didn't believe possible, are helping this company add stars to its many "E" burgees and to acquire new Army-Navy awards at plants hithertofore unhonored.

In November, 1941, when we first began eyeing the approaching manpower situation with fear and some little trembling and began to work out our program for conversion of plants from all-man operations to chemical and plastics producing units using both men and women, Monsanto's operating and general staffs began looking for jobs that could be filled by women. A year ago, it was obvious that it would be simpler to look for jobs that couldn't be taken over by women and to peg all others as potential locations for them, if and when it should become necessary to turn to the fairer and weaker sex for production.

If the comments of all of Monsanto's operating managers who were brave and began using women were condensed into one terse, descriptive sentence, that sentence would be: "The girls are doing a grand job."

Women aren't being put into all types of Monsanto jobs, because they can't possibly, because of their physical get-up, fill all positions. But in the jobs in which they are serving, they are serving well and efficiently and with a helping hand from a male associate now and then on a lifting or a clean up job, they are carrying their share of the burden.

If a visitor were to make the rounds of Monsanto's plants today, he would be struck by some of the specific jobs women of Monsanto hold.

In that dramatically inspiring and spectacular furnace plant of our elemental phosphorus producing unit at Monsanto, Tennessee, sinter, coke and silica are weighed out and sent by women to the world's largest electric furnaces for the production of phosphorus. Here accuracy is paramount. Scales and belt conveyors have to be policed. The women operators must watch the controls and be on the alert every minute of the working shift for any possible breakdown in any part of the mechanical system which might result in a shutdown of the entire plant—thus cutting production of phosphorus needed so badly for the armed services, on the ground, in the air and afloat.

In this same plant, women are beginning to handle part of the condensation system where temperatures, water and phosphorus pumps and waste gases must be kept under rigid control. In the phosphorus handling department, these Tennessee industrial versions of the WACS and WAVES, work with men in the movement of phosphorus into storage tanks and eventually into tank cars for shipment to the Chemical Warfare Service's arsenals and other Monsanto plants. In the laboratory, women assistants carry on continuing analytical work, which is the control over the entire plant operation, on such materials as phosphates, abrasives and calcium carbide. In the machine shop they operate drill presses and lathes and do miscellaneous shop repair work.

Up in Trenton, Michigan, women carry out the relatively simple task of

making the cardboard boxes in which the phosphate salt products are packed. They fill, sew and label barrels and stencil barrels and containers. But on the more vital jobs of production, they serve as operator-helpers and record the readings of the instruments on the huge control panels, keep a check on the functioning of processes, clean instruments and run routine chemical analyses.

At Nitro, West Virginia, from where Monsanto rubber chemicals are dispatched to all sectors of the rubber industry—both natural and synthetic—women carry on analytical and research laboratory work and two young women have the interesting task of testing rubber samples for reaction brought about by antioxidants and accelerators.

The young women who pioneered in the laboratory and engineering department of the Monsanto, Illinois, plants, have paved the way for their sisters whenever the manpower situation in that area makes it necessary for placing of women in operations.

Monsanto's plastics plant at Springfield, where our newest "E" flies, always has employed women, but here, too, they are beginning to work in on many more operations. In the Springfield plastics research and control laboratories, a no woman's land, and in the laboratory of Shawinigan Resins, a Monsanto subsidiary also in Springfield, a number of women chemists are adding a little glamour and appeal to the normally severe surroundings.

In the Everett, Massachusetts, plant of Monsanto and the adjoining plant of New England Alcohol, Monsanto subsidiary, women are handling various jobs formerly performed by men. In the alcohol denaturing department women are filling alcohol drums and tank cars. In the lacquer department drums and cans are filled, painted and stenciled by women. In the service storehouse when one desires nuts, bolts, pipe fittings and similar supplies he is served by a woman. In the carboy repair department women are becoming adept with hammer and nails. Trucks entering and leaving the plant with raw materials or finished goods are weighed in and out by a woman. Even in chemical operations, however, the womanly instinct prevails. One of the storeroom matrons at Everett who found extra time on her hands took over the mending of torn socks and work clothing.

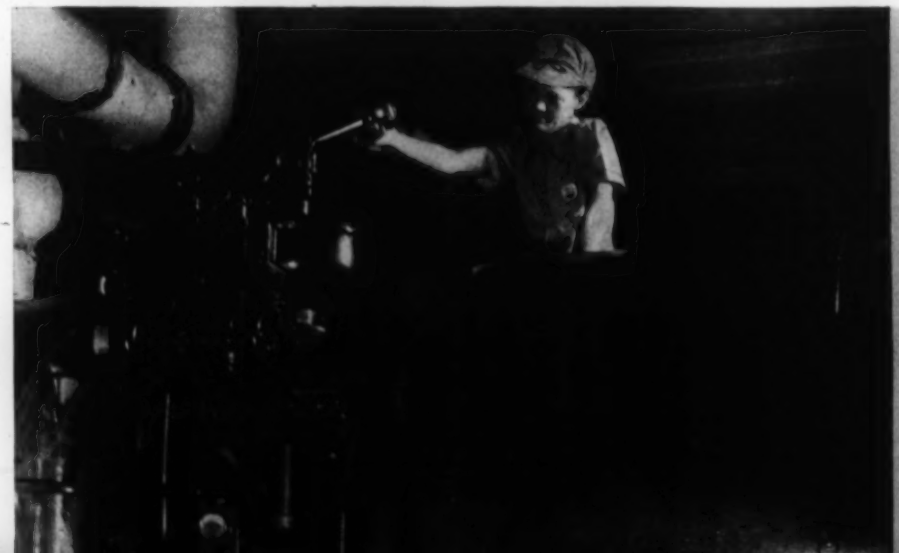
In the all-important production of styrene, one of the two principal components of synthetic rubber, at Monsanto Texas City, women work in the power plant as auxiliary operators keeping oil in the equipment at proper levels, operating chemical feed pumps, checking instruments and cleaning equipment. Another crew in the water pumping station carries out the same duties. And this is a real man-size pumping station, for it pulls out of Galveston Bay sufficient water to serve a city of 500,000 persons. In the instrument record department, women change charts and ink control instrument pens. In operations, they record control readings and function in the analytical laboratory.

At the John F. Queeny plant in St. Louis a young woman has taken over some of the duties in the power plant. She assists in checking feed water to boilers and in taking samples of water from boilers to test for proper chemical proportions. She also takes water samples from cooling towers to determine if the proper amounts of chlorine and other chemicals are being fed into the towers. Records are kept of all tests to insure correct treatment at all times. In the laboratory, a group of women work analyzing such important products of the plant as the sulfa drugs.

In Monsanto's laboratories, women work side by side with men. Most are in analytical laboratories, but some are in the sacred precincts of the research labs where new products for war and new products for post-war employment are in process of development.

Mary Moshier, a chemist in her own right, is now in the patent department at the Central Research Laboratories at Dayton, Ohio. She is co-author of a recent book on organic chemistry. Another outstanding woman scientist at the laboratory is Mary Renoll. She formerly was an associate of Dr.

By Loretta Moushey ***Assistant Director of Industrial Relations***



Woman control of power mastodons is not new, but always interesting. Opal M. Ashby, auxiliary operator and oiler, is here helping to reduce the friction of a governor on a 1250 K.V.A. steam turbine driven electric generator at Monsanto's Texas City plant.



A power plant's operating panel board soon becomes an understandable automaton in the hands of a capable woman. Checking this smoke indicator in the powerhouse of the John F. Queeny plant, St. Louis, is Helen Zernovacz.

Thomas W. Midgley and worked with him on the development of Freon refrigerants used in food refrigeration and in all types of industrial air conditioning and refrigerant equipment. Miss Renoll, a regular contributor to the Journal of the American Chemical Society, is now engaged in organic synthesis. Sarah Aulabaugh is a technical assistant in the physical department and assists in electron microscope and X-ray work. Her hobby is photography for which she has won several prizes.

In the Organic Chemicals Division research department in St. Louis, Ann Van Hoose Cain is working on exploratory research on the preparation of intermediates in the syntheses of chematherapeutic agents.

In the Phosphate Division Research laboratories, at Anniston, Alabama, Lois Mintz assists in the operation of a pilot plant for manufacture of sodium phosphates.

The Phosphate Division maintains a laboratory at Carondelet, Missouri where all baking powders or leavening agents both for home and commercial uses are tested. Elizabeth McKim,who has supervised this work at Monsanto for 15 years, is a cereal chemist and works on all baking problems relating to leavening agents, shortening and rancidity in prepared, plain, enriched and self-rising flours. She works out formulas and recipes to test proportions and types of baking powders, shortening and sugar which will make the best bread, cakes, biscuits, doughnuts and pastries. She works in a sunny, gleaming laboratory-kitchen and often bakes and tests more than 200 biscuits daily.

In analytical work, it can be safely said, women of Monsanto are making a real contribution to the war effort because without proper control of products through routine analysis as they come out of the production units, no chemical plant can operate very long, and without chemical plants, which are the foundation stone for all industry, the war production program would falter tragically.

As our many plants surge forward in the last half of 1943, more women will join us in our essential work, because they have been tried at important tasks and have been found not wanting, even by critical men.

Plant management, justifiably skeptical and unwilling to have women come in until it was absolutely necessary, now states unreservedly that women are willing employes and able to do good work. Women are safety conscious, thus restoring color to the heads of some operating superintendents whose hair turned a bit gray at the thought of women working as they are reputed to drive. Women take to safety instruction and are conscientious about following orders. They are resourceful and turn in suggestions on safety, many of which have been found useful. Supervision has found that they learn routine work just as quickly as men and are a little bit slower on tasks requiring initiative, but this minor shortcoming is blamed upon their unfamiliarity with plant work rather than upon any slowness in mental adaptability.

Working exactly the same shifts as men, rotating from month to month in continuous operations that are so standard in chemical production, the women soon acclimate themselves to different hours and find the changes not too troublesome.

There has been much discussion about women in industry—some constructive and some destructive. Safety engineers shuddered at the fear that the attention of male minds would be so focused upon the "sweater" girl that both the men and women would be careless of their well being and send accident frequency soaring. However, the records throughout industry, both domestic and foreign, show that this has not been the case.

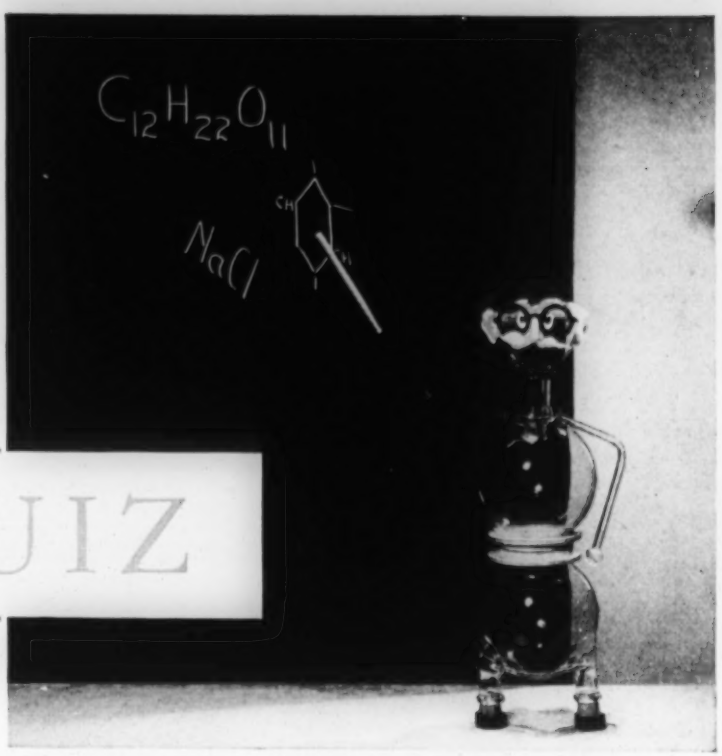
In most modernly operated plants, women employes wear slacks and blouses and pitch right into the job at hand. They put up with some bantering and joking—but bantering and joking aren't new in industry, except that the boys have had to clean it up a little since their sisters began taking over adjacent posts.

Just as women who join the WACS and the WAVES to release men badly needed for tasks only males can carry out in prosecution of a war, their nonmilitary sisters are taking over equally important duties in helping to provide the sinews of war.



She stoops to read a thermometer and by it checks the temperature of a chemical problem still in its embryonic stage. Yvonne DeMars, research chemist of the Central Research department at Dayton, Ohio, is pictured on active duty wearing not only the proper uniform but the new safety glasses of a chemist. Miss DeMars was studying nursing when she decided to become active in defense work.

CHEMICAL QUIZ



SPEAKING OF QUIZ PAGES (you weren't, but we are), here's a shining example of why it's nice to know the answers:

Not long ago a 16-year-old boy went to a tax sale in Harvard, Nebraska, and bought four lots. On one stood the town jail. The town leaders pleaded for their jail, but the young tycoon (who knew most of the answers) demanded $20 back rent and $40 for repurchase of the jail. He really had 'em where he wanted them, didn't he? But when the boy wouldn't give the jail back, the city leaders promptly fired his father, the town physician.

The kid doesn't know the answer to that one, but our answers are on page 28.

1. Which of the following ordinary household items are essentially pure compounds and which are mixtures?
   a) Table salt
   b) Borax
   c) Baking powder
   d) Household ammonia
   e) Water
   f) Sugar
2. What is the active ingredient of soluble ammonium salts that assists the growth of most plant life?
3. The United States has a corner on the world's helium gas. True or false?
4. For those of you who are active in Civilian Defense, this one should be a breeze, but can you match the identifying odors of the following list of Chemical Warfare gases?
   1) Chlorpicrin
   2) Lewisite
   3) Phosgene
   4) Chloracetophenone
   5) Adamsite
   a) Coal Smoke
   b) Musty Hay
   c) Anise
   d) Geraniums
   e) Apple Blossoms
5. If someone handed you a piece of metallic sodium, which of the following would be sensible?
   a) Drop it into a bucket of vinegar.
   b) Throw it into kerosene.
   c) Place it quickly under water.
   d) Put it away in the medicine cabinet.
6. Rearrange this list of chemicals in degree of hardness.
   a) Quartz
   b) Corundum
   c) Gypsum
   d) Diamond
   e) Feldspar
   f) Fluorite
7. An Elastomer is
   a) An infection successfully combated by sulfanilamide.
   b) A substitute for meat.
   c) Anything in the polymer class that has elastic properties — ie. some forms of synthetic rubber.
8. Can you name the five most chemically active metals from the following list?
   a) Potassium
   b) Copper
   c) Zinc
   d) Lead
   e) Iron
   f) Platinum
   g) Calcium
   h) Aluminum
9. I am a combination of two well-known gaseous elements. When pure I have a sp. gr. of 1.5 and freeze at −1.7°C, and when in dilution I am used by doctors, pharmacists, beauty shop operators, art museums, as well as many others. What am I?
10. Plaster of Paris get its name from Paris, the boy friend of Helen of Troy. True or false?

PALM READING

THE HAND OF MARS



Morris Ketchum, Jr., New York architect, started thinking about the Lustron battery cases made for the Army's Walkie-Talkie radio sets and went on from there. Now he is thinking in terms of a store employing the best characteristics of plastics construction and designed to take full advantage of modern architecture and the qualities of new materials.



Ketchum's store will look something like this when he gets through putting to use all the new things being born during war. And remember that this design is utilizing things we have now, not things he hopes will be developed in the future. It's no day dream, it's a working plan.

THE GREATEST DIFFERENCE between animal and man is that man thinks, imagines and does something about his future actions. Sometimes, some men's mental gymnastics lead to muscle-bound absurdities, such as conceiving plastic chicken coops and grazing fields fenced with plastic barbed wire. Because plastics is a new and fascinating subject, futurists gleefully conceive ferryboats, garden hoes and transparent snowsuits, when, perhaps, the materials already in use for these items still have the greatest utilitarian value.

However, between the Rube Goldberg inventors and the It-Can't-Be-Dones, is a group of practical planners who contribute new and useful things for living, where plastics have their place.

Busy as they are, practical designers who are now working with development of plastic contrivances for war have found time between armaments to design for the application of these same synthetic resins for the day when peace returns. Among the many are the plans of three men who have a sense for the new but temper their dreams with the practical utility of plastic.

One of these is a young Chicago architect, Philip Will, Jr., who knowing that sturdy, durable plastic-bonded plywoods are now being molded into bomber parts, suggests prefabricated structural wall sections. He suggests mass produced panels that allow for custom-built walls with individuality and that these be formed in one unit from three sections of plywood with the inner section corrugated. This inner section gives it strength and rigidity. Where's the plastic? New plastic glues worked by the new induction heating principles will, he says, make this panel quickly into a monolithic unit—and right on the site of building construction.

Then there is the practical suggestion of Architect Morris Ketchum, Jr., of New York who was intrigued with the new battery case developed for a Walkie-Talkie, made by the way of Monsanto's Lustron. Lustron being lightweight, water and weather resistant polystyrene, Ketchum thinks of a complete store based on war time developed materials. No, it would not be entirely made of Lustron for this might be as absurd as the thoughts of plastic chicken coops or all plastic ferryboats. Where do plastics belong in this future store? They are present, but other building materials also have their proper place.

Another top-flight designer who engineers in plastics is Egmont Arens of New York. He thinks in terms of ply-

As Designers Work with War Time Plastics, They Plan Peace Time Applications

wood bonded with plastic, but with a different view. Arens visualizes structural lumber produced almost literally by the mile. Plys of wood veneered with a plastic bond would be wound transversely over an oval-shaped mandrel.

"Free from knots and flaws, Plyfold lumber could be built to exact engineering specifications," Mr. Arens points out. "It would actually approach steel and aluminum in strength per pound. Being plastic permeated, it would resist warpage, rot or insect attack."

And so, like these, other new plastic usages are being worked upon as time permits between the designing of plane parts or plywood planks for PT's. These are the practical things—even though they are not in the full and finished forms that will enter the postwar world in which we hope to live.



Egmont Arens, New York industrial designer, visualizes construction lumber made of plastics-bonded plywood which could be produced literally by the mile. In his development, Mr. Arens pictures plys of wood veneer impregnated with plastics bonding material being wound transversely over an oval-shaped mandrel. The wood, free from knots and flaws, would carry a load approaching steel and aluminum in construction.



Philip Will, Jr., Chicago architect, suggests mass production of wall panels for home construction. In his prefabricated walls three sections of plywood, with the inner section corrugated to give great strength, will form a panel, and, although the panels will be produced in mass quantities, their uses in each new home will actually transform them into custom built walls.



Architect Will thinks in terms of a living room like this, built for cleanliness and roomy comfort and designed with the artist's eye for line, color and harmony. Floors and wall panels both in this design are made from Will's plastics-bonded plywood development.

THE ROAD



(Photo courtesy Caterpillar Tractor Co.)

"The Road starts at Dawson, British Columbia, and ends at Fairbanks, Alaska. It crosses the great Peace river, it goes through Fort St. John, Fort Nelson, Lower Post, Whitehorse . . ."

THE ROAD starts at Dawson, British Columbia, and ends at Fairbanks, Alaska. It crosses the great Peace river, it goes through Fort St. John, Fort Nelson, Lower Post, Whitehorse. At one point it reaches a height of more than 4,000 feet, at others it wallows through miles of mush—call it muskeg, tundra, swamp and it's still mush—and most of its twisting route lies in country never before seen by anyone but Indians and lonely trappers. The first contingent of road builders arrived in late March, 1942, and early in September the advance units of the two construction groups, one working down from the north, the other working up from the south, met at Watson creek north of the Laird river and came singing and shouting into the little village to celebrate the completion of the Alcan.

American and Canadian ingenuity—that famous know-how—has made The Road a legend. Men and machines—and something else, too—built The Road. That something else was chemistry.

Last year in March the first of the Engineer troops climbed off the train at Dawson and trucked up to Fort St. John over the last fifty miles of road in Canada. From there on they built. Other units had disembarked farther north at Skagway to begin the center section, and still another outfit landed at Valdez, Alaska, to start on the road at Fairbanks and work south. All units were to meet by October.

The Engineers whacked into the wilderness, using all the machines and tricks known to construction and making up their own as they went along. They pitched Army camps, clusters of little green tents, where they could find dry ground, and set up their supply and repair depots, hospitals and mess tents all along the raw gash of the ugly Alcan highway.

"The Engineers used the uprooted trees to make long stretches of corduroy road, then scooped up dripping muskeg and spread it on the logs to dry. Later the corduroy was graded and packed and trucks rumbled over it. Culverts were made of fallen logs and bridges were built of the mangled timber." (Official Signal Corps Photo)



★ ★ ★

Jerry didn't know exactly where he was, but he knew he was smack in the middle of a big stretch of country. Dead ahead of him was a solid stand of dense timber, and behind him snaked the slough of mud and deep ruts that was the highway. He finished the cigarette with one last deep drag and went to work, throwing his big "cat" into gear and growling toward that stand of timber. On The Road they had found it was easier to knock the trees down and shove them aside than to cut with saws and axes, so Jerry smashed into his target, twenty tons of rumbling steel pushing the big cutting blade poised up in front of the radiator. Over Jerry's head a single steel beam protected him from falling trees.

In his second cut Jerry got hit. One tree snapped at the trunk and whipped back across the protecting bar, but a branch twisted down and got him across the head and shoulder.

When they picked Jerry up there wasn't much blood but he was out, cold. A jeep hauled him back to the base, up to the

MONSANTO

hospital tent, and the doc said it was bad but not fatal. The doc had plenty of stuff in his field hospital—antiseptics, pharmaceuticals and the sulfa drugs. In Jerry's case maybe they didn't actually save his life, but they made it a lot safer. Chemistry put them there, in a field hospital far north in British Columbia where the next nearest aid was 50 miles away over nearly impassable mud ruts.

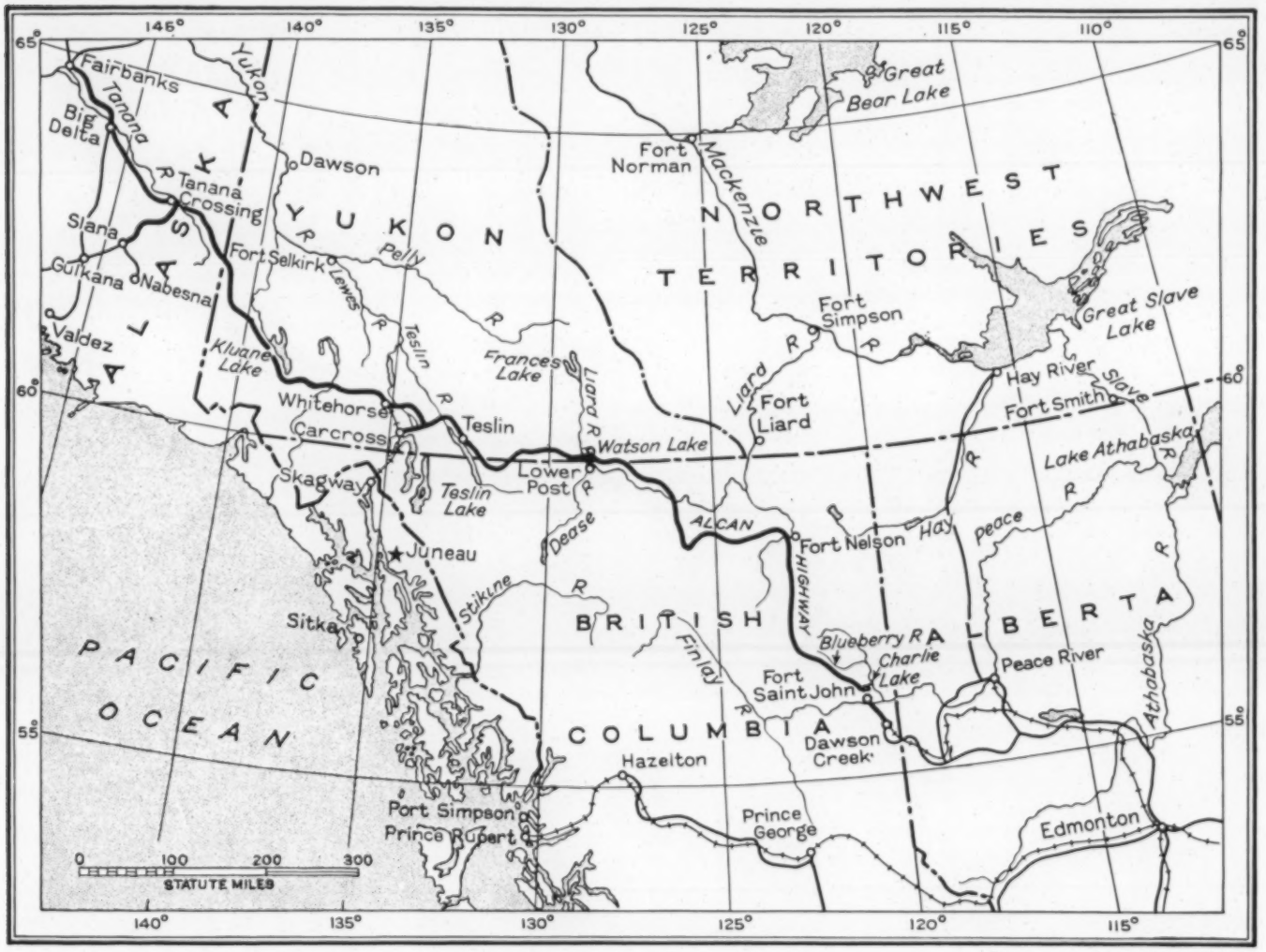
★ ★ ★

Bulldozers ripped into the timber, knocked it down and shoved it over to the sides of the 100-foot clearing. More tractors followed to tear out the stumps and do the primary grading. Still more tractors, equipped with scoops, tore the tops off hills and dumped them in the valleys.

United States and Canadian Engineers With Machines and Chemicals Battle a Wilderness and Together Build the Alcan Highway

The Engineers used the uprooted trees to make long stretches of corduroy road, then scooped up the dripping muskeg and spread it on the logs to dry. Later the corduroy was graded and packed and trucks rumbled over it. Culverts were made of fallen logs and bridges were built of the mangled timber. When the graders and ditchers came along they took gravel and rock from creek beds and spread it on The Road, gravel flecked with yellow from creeks in the greatest gold country in the world.

The men worked seven days a week. Crews were hard at it 24 hours a day, pushing harder and harder as the summer wore on.



Courtesy of the Military Engineer

The Route of the Alcan Highway



(Official Signal Corps Photo)

"Food was a big problem on The Road. Most of it was regular Army rations, the canned, dried and condensed foodstuffs that go with combat units overseas. Army mess kitchens were set up and Army cooks presided at the big kettles of food that kept the soldiers fit and healthy."



(Official Signal Corps Photo)

"On The Road they had found it was easier to knock the trees down and shove them aside than to cut with saws and axes, so Jerry smashed into his target, twenty tons of rumbling steel pushing the big cutting blade poised up in front of the radiator. Over Jerry's head a single steel beam protected him from falling trees."

Tennessee Brown laid a big, greasy hand against his cheek and crushed three or four mosquitoes, then went back to work on the 17-ton cat. These were the babies doing the work, and they had to be watched and coddled and serviced because when one went bad or a part broke it was hundreds of long miles back to the railhead at Dawson. Tennessee reflected that Nashville was never like this as he checked the transmission and differential lub and swatted more bugs. This was just a service check. Some transmission oil here, some heavy grease there, hypoid oil for the big drive gears. He had the finest oils and greases in the world, because chemistry had made them so, had given his cats the stuff that lasted longer, took more punishment and kept the power up.

★ ★ ★

"Bulldozers ripped into the timber, knocked it down and shoved it over to the sides of the 100-foot clearing. More tractors followed to tear out the stumps and do the primary grading. Still more tractors, equipped with scoops, tore the tops off hills and dumped them in the valleys."

(Official Signal Corps Photo)



Food was a big problem on The Road. Most of it was regular Army rations, the canned, dried and condensed foodstuffs that go with combat units overseas. Army mess kitchens were set up and Army cooks presided at the big kettles of soup and stew that kept the soldiers fit and healthy. Here again, though, the insects made life miserable. Many of the men worked all day or night wearing hoods of mosquito netting and gloves which protected hands and wrists from bites, but at chow time the hoods came off or no food went in, so the men worked out a compromise. They bolted their food as rapidly as possible, then slapped the hoods on again.

The men had radios, magazines, pin-up girls, and mail service. And fresh air. Plenty of fresh air, a whole continent of it.

★ ★ ★

Jim dropped down and leaned his back against a tree trunk. It's no snap climbing up the hills and crossing the creeks and enduring the bugs of summertime Alaska. It tired a man. Especially when the surveying instruments had to be carefully guarded against damage and the figures had to be kept accurately no matter what else happened. Jim's party had started out from Fairbanks and had kept in front of the building gang right along, but it was tough going and it felt good to sit down, rest and maybe heat a little food for lunch. Jim's kit held plenty of lunch—all packed into a box the size of a building brick. Army rations might not be equal to the cuisine at Henri's, but it filled a fellow up and tasted plenty good enough. Chemistry had a lot to do with that. Jim's lunch was fortified with synthetic vitamins, flavored with synthetic condiments. It was dehydrated, packed in surgically clean packages impervious to both bugs and weather. There was a lot of chemistry in Jim's lunch, all right.

★ ★ ★

When The Road was conceived the Army planned first to build a plain "tote" road, just a clearing 1600 miles long, from Dawson to Fairbanks, but the Japs changed all that. Between the first falling tree and growling bulldozer and that truck convoy heading north there are a lot of facts and figures. Here are some of them:

Most of the Alcan's length lies within Canadian territory, but the two countries have cooperated so smoothly in pushing the project to completion that they broke their own projected schedules. This is about the first time two countries have worked side by side on a job of such military scope and importance.

Fifty-two American and Canadian contractors helped the Army Engineers on the job. The combined equip-



(Photo courtesy National Film Board, Canada)

"... The cold was so intense it formed a blanket of frost over every exposed piece of metal on the big road-hog."

ment of these civil and military builders included 300 tractors equipped as scrapers, bulldozers or trail builders; 1,000 trucks; 125 air compressors with drilling accessories; 55 power shovels; 200 electric light plants; 65 portable repair shops; numerous mixers, rollers, pumps and trailers.

Ten thousand Army Engineers were supplemented by 6,000 civilian workers, and the 16,000 men pushed the road ahead at the rate of eight miles per day, bridging 200 streams in their progress. The bridge at Peace river, almost 2,000 feet long, was completed in just 21 days. The Road averages 24 feet in width between ditches, is 1,671 miles long—and was completed in slightly over six months.

★ ★ ★

Hank handled the big, lumbering six-wheeler as deftly as he had his cab back in Chicago, but this road was nothing like Michigan boulevard. It wound and dipped and rose through the most forsaken land his Loop-accustomed eyes had ever seen. Not far back an elk had paused in the glare of the headlights momentarily before plunging wildly into the snow-blanketed forest. The Northern lights flickered like a great supernatural neon sign and the cold was so intense it formed a solid blanket of frost over every piece of exposed metal on the big road-hog. But it wasn't a bad job. Not so bad as you might think. The truck cab was heated, Hank's clothes were warm, and his machine was running smoothly and confidently. Fifty below doesn't bother this baby, he thought. It'd better not. Of course, if something went wrong all he had to do was pull over and wait for the next truck in the convoy and hitch a ride. But this load had to get through. It was nice to have a good machine. Chemistry helped make it good. Chemistry kept the oil fluid at fifty below, kept that power plant from freezing solid in the bitter cold. Chemistry was in the radiator, circulating in the cooling system. And it was in the gasoline, getting more horsepower, less knocking when the hauling got tough.

Monsanto Chemicals on the Road

Sulfa drugs Aspirin Methyl Salicylate (in liniments)	First Aid Stations
Santopour Santopoid	Greases and Oils of Tractors and Motor Trucks
Sulfuric, Nitric, Hydrochloric Acid	Metals, Leather and Textile Manufacture
Phosphoric Acid	Rustproofing of Metal
Mono Calcium Phosphates	The Phosphates of Baking
Trisodium Phosphate Tetrasodium Pyrophosphate	Water Softeners and Detergents
Antioxidants Accelerators	The Life-Givers of Rubber Tires, Treads and Belting

★ ★ ★ ★

More were there and more will travel
this road in the days to come.

"... Early in September the advance units of the two construction groups, one working down from the north, the other working up from the south, met at Watson creek north of the Laird river and came singing and shouting into the little village to celebrate the completion of the Alcan."

(Photo courtesy Caterpillar Tractor Co.)



"On the day The Road was officially opened a convoy of carriers set out from the southern terminus and knew they'd get their loads overland all the way up to Alaska." Today the Alcan is the vital—and only—overland link between our North Pacific bases and our supply points to the south. Over this road the war moves toward Japan.

(Photo courtesy National Film Board, Canada)



PASS *Friend*

A Monsanto Plastic Protects and Makes Tamperproof Wartime Passes

NO EMPLOYE can get into a war plant without a pass. You accept this precaution as a wartime measure, but the future of the company pass goes much farther than the end of the war.

That is the opinion of the Glassoloid Manufacturing company, the people who make the machine that makes the pass out of plastic made by Monsanto.

These are no ordinary passes. No slab of cardboard with bare essentials of identification typed on the face. Rather they are handsome, durable, moistureproof, light, unbreakable, smooth, clean and washable. These paragons of identification come in the form of either badges or cards and are made of laminated transparent Vuepak.

They are made tamperproof by being sealed with a Monsanto adhesive coating. Anyone who tries to rip one of these tight passes open will succeed only in splitting the paper into layers rather than loosening the plastic.

Glassoloid has been in business for over 11 years, but their work in plant protection is comparatively recent. Their first products were small wall plaques of the five-and-ten-cent variety, suitable for hanging in children's rooms. The next step in progress was a far cry from kiddie decorations—Glassoloid manufactured liquor display cards.

Many retailers who refused to use ordinary cardboard or paper displays because they looked cheap were happy to use the new plastic-coated ads in their windows and on their counters. The new type display was glossy, clean and expensive looking.

Glassoloid then began to receive orders for making up portraits, diplomas, marriage certificates, and other valuables underneath the glossy transparent surfaces. Laminating was found to be particularly adaptable to religious plaques and medallions. Sacred Heart badges have been encased in plastic, making the bit of cloth long-lasting and always clean.

The war has called to a halt the manufacture of all these non-essentials. Now Glassoloid devotes itself almost entirely to production of identification passes.

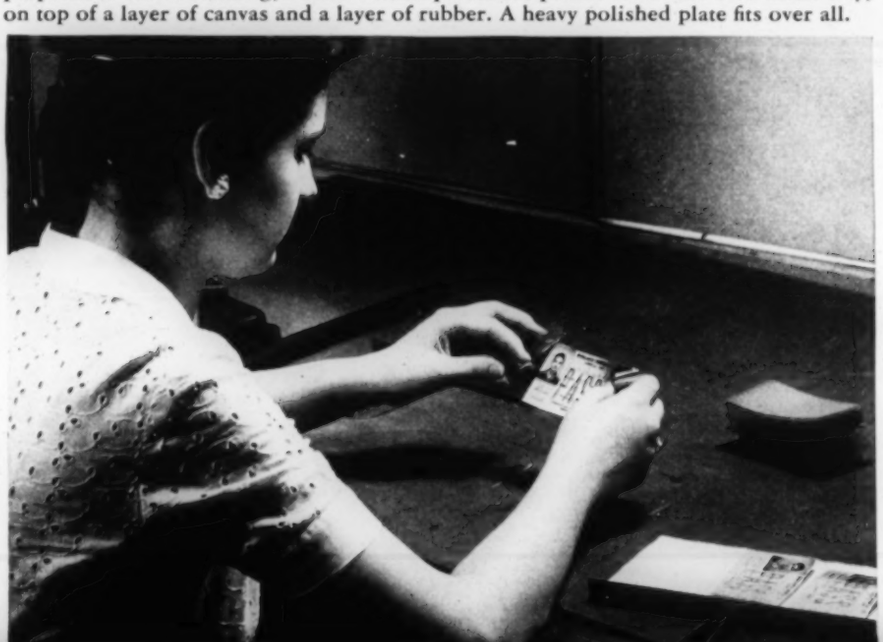
Arrangements may be made for Glassoloid to make the passes within its own plant under strict supervision, or individual companies may purchase the small portable laminating machine and manufacture the cards and badges on their own premises, in accord with their own protective regulations.

Latest development in the identification badge is the application of an invisible identification mark into the plastic itself. This ink is visible only under certain rays. Even the employes do not know of the existence of these markings on their passes. Periodically, their cards are subjected to a special inspection and any that have been tampered with are readily detected.

All the employe need do is extend his hand, holding the pass, through a hole in a partition. Beyond the wall, away from the eyes of the employe, an inspector shines the special ray upon the pass, illuminating the design impregnated within the plastic. If the original photograph or signature has been cut out and another substituted, the break in the lines of the design will be evident.

This secret marking was made possible by two young brothers—one under age—who invented the invisible ink. All divisions of the armed forces are using this marking in one form or another in their pass systems.

Monsanto's own employe passes are tamperproof. Identification photographs are pasted onto passes bearing statistical information. The paper is then inserted between a double layer of plastic which has been coated with a Monsanto liquid adhesive. In preparation for laminating, Rhoda Vettori places the plastic sandwich on a metal tray, on top of a layer of canvas and a layer of rubber. A heavy polished plate fits over all.





With three passes on each tray, and with two trays heating while two others cool, 12 passes may be laminated at the same time. Trays are left in the upper openings for about 3½ minutes, while the adhesive liquefies and seals the face of the pass to the subject matter. If an uncoated plastic is used, a temperature of 100 to 150 degrees higher is required to melt the plastic and fuse the edges around the card. However, cards made from uncoated material are brittle and are not tamperproof.



The finished product, edges neatly trimmed, will last indefinitely. So easy to operate that a girl may take over the job of making passes, the laminating press is electrically heated and thermostatically controlled. Want to substitute your own signature and picture for the one on the pass? Okay—just try it. Wedge a knife blade into the edge and split the layers of plastic apart. Then examine the remaining pieces. You'll find that not the plastic but the paper has split, leaving shreds on each side.

Each of these wall plaques is laminated with transparent Monsanto plastic. Both wine advertisement and religious pictures are made more attractive by this modern treatment. Plastic lamination is more practical than glass because it is unbreakable. Moreover, it adheres closely to the subject matter, so can be washed without danger of water seeping underneath the surface.



Pocket-size prayer cards are twice as popular with servicemen if they are laminated with plastic. Take a look at any piece of paper which you have carried either in your hip pocket or your wallet for the past month. Ten to one it's dog-eared, grimy, and you've mutilated it with nervous twisting, rolling and folding. Plastic encased cards like these stay fresh and legible indefinitely.



Improving the Chances OF BEING SAVED

The Latest Life Raft is a Pocket Size Camping and Signaling Outfit. The Analyst's eyes discover the chemicals.

IT SEEMS peculiar, doesn't it, that the obvious is sometimes difficult to see? For more than a generation life boats and rafts—and thousands have been made for generations—were equipped with little more than a keg of water and a box of hard tack. Perhaps because few returned from a shipwreck, and those that did had few ideas, the obvious was overlooked. But keeping afloat for days takes more than a naked raft, a dry crumb and a sip.

Endangered warships, freighters, submarines on the waters and the new armadas of the skies crossing and fighting the Seven Seas, have made many give thought to needs-of-living-on-a-raft. Today, with war increasing the chances of being set adrift on a rubber raft and, perhaps, because more resourceful minds are returning from such an ordeal, life raft accessories have been increased.

It was an ex-governor of Pennsylvania and sportsman who is said to have first agitated for fishing-tackle and developed a simple way to squeeze drinking water from fish. Here are the directions packed with every fishing set: "If you can catch fish, you will not die of hunger or thirst. The flesh of fish caught in the open sea is good to eat, cooked or raw. It is healthy and nourishing.

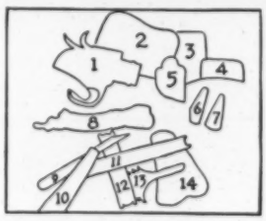
"If and when you have caught more fish that you can eat, squeeze out or chew out the juice of the flesh and drink it. Fish juice tastes like the juice of raw oysters or clams.

"To squeeze it out, take a piece of

Photos Courtesy of Wright Flyer, Wright Field, Ohio



Here is the works from fish line to life line. In separate packs within the plane, the accessory packs are tossed out through nearest door or escape hatch. The sketch legend accompanying the photograph checks over the equipment.



	CHEMICALS
1 Pyrotechnic pistol	Unknown
2 First aid kit	Sulfa drugs and pharmaceuticals
3 Canned water	Water chemicals purified
4 Sea dye	Unknown
5 Waterproof flashlight	Metal chemicals
6, 7 Bullet plugs	Unknown
8 40-foot rope	Textile chemicals and preservatives
9 Buoyant knife	Metal chemicals in manufacturing
10 Pork rind bait	Preservatives
11 Trolling line	Textile chemicals and preservatives
12 Hand lines	Textile chemicals and preservatives
13 Artificial minnow	Unknown
14 Seine	Textile chemicals

A one-man raft for fighter pilots is attached to the parachute pack—forms a cushion in the standard airplane seat. The accessories are fewer than the large models as AAF fighters seldom operate far from shore.



MONSANTO

the flesh without bones or skin. Cut it up fine. Wrap in some kind of cloth, leaving long ends, and let two men twist the ends hard. The juice will drip out. To chew it out, put a small piece of fish in your mouth. Chew it small. Suck out the juice and swallow it, then spit out what is left."

However, through the combined efforts of industry and the Army Air Service's Life Raft Unit, the greatest advancement of sea-saving equipment has been made. The new pint-size packet may not make a summer cruise out of a shipwreck, or an emergency landing but it can not help but save many lives.

Rubber rafts, one man, medium and large have been standardized and are now more efficient. The Air Corps has a one-man raft stowed in the parachute pack; the two larger models are carried in the plane. The medium raft floats 1,000 pounds. The large one will carry up to 2,500 pounds. All are inflated by attached flasks of carbon-dioxide gas which inflate the rafts in about 30 seconds. Need we be obvious and mention that rubber chemicals and the chemical compound carbon dioxide are here on the job?

Then there are the oars, sail, compass, and sea anchor, the pyrotechnics pistol, flares, waterproof flashlight, harpoon and seine. Together with all these, which when listed look as if they alone would sink a raft, there are First Aid kits, concentrated rations, canned water, and vitamin pills.

If you are a student of industrial chemistry or have read other issues of this magazine, you scientifically sensed the part chemicals play in that list. To make it less of a guessing game a legend, accompanying the picture of the kit's contents point up the chemicals we know about, but necessarily omit those that are military secrets.

But this story has had a forced landing. Let's end it by saying that if you or your boy come back after a ride on a raft, you or he may say it is because the obvious needs have been seen and provided.

MAGAZINE



Two compartments are provided for life rafts in AAF heavy bombers where every inch of space and ounce of weight are precious. A lever inside the cabin pops the rafts from this roof compartment into the sea.



The portable radio strapped firmly between the legs of its operator automatically sends out the familiar SOS on the international distress frequency or can be switched for transmitting other messages. A 150,000 square-mile circle is covered from the life raft. The name "Gibson Girl" applied to this arises from the curves of the case. There is a new club with certificates of membership to those who have been saved by the "Gibson Girl."

The "Gibson Girl" antenna is carried aloft by a box kite in a wind, by balloon in calm weather. The ground wire trails in the water.

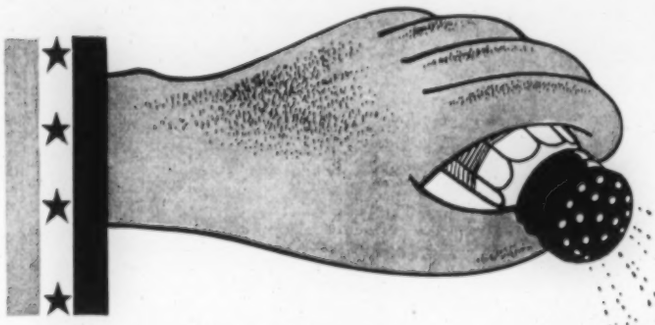


Do You Know



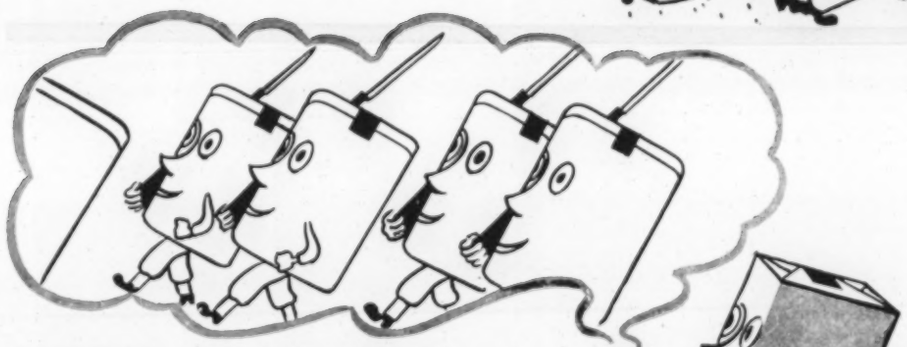
That because hot summer sun will expand a 400-foot steel ship as much as four inches, many shipyards are making final welds at night?
(Monsanto's Anniston, Alabama, plant produces calcium carbide, which is the source of the acetylene used for welding.)



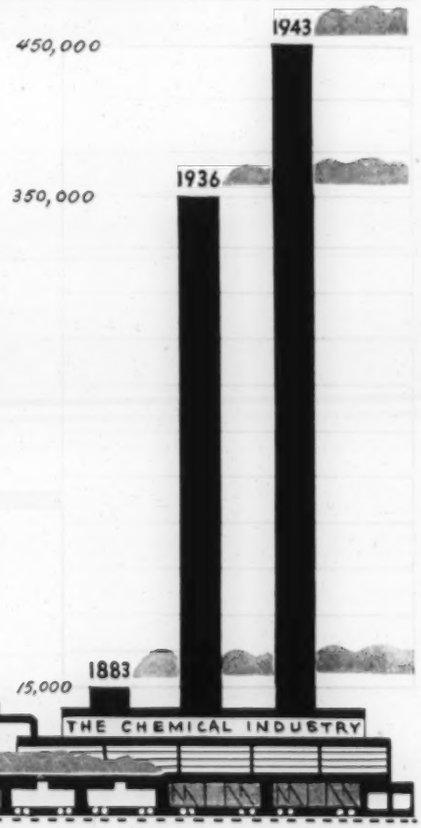


That 10,000,000,000 pounds of salt were used to make chemicals in 1942?
(Monsanto uses hundreds of tons to produce chemicals that will help dissolve the Axis.)





That 700 million cans of tobacco formerly packaged in steel are now in paper board containers, saving 40,000 tons of steel a year?
(Monsanto serves with chemicals both the steel needed for war and the paperboard for packaging.)



That in 1883 only 15,000 organic compounds were known; in 1936, the number was 350,000; today it is over 450,000?
(Monsanto since its beginning 42 years ago has made essential organic chemicals in ever increasing numbers.)

Greater Monsanto

With shouldered arms, Thomas Dalton, first class electrician of the Everett, Massachusetts, plant, and son, Captain Bradford Dalton, meet. Captain Dalton, bombardier on 50 trips over Germany and Italy, returns with three oak clusters. He also distinguished himself in the Tunisian campaign. "Tom" Dalton has worked 25 years at the Everett plant. Captain Bradford worked at Monsanto in the summer during his college days.



MONSANTO *Magazine*

Vol. XXII AUGUST—SEPTEMBER No. 4

Published by Monsanto Chemical Company, St. Louis, U. S. A.

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ORGANIC CHEMICALS DIVISION
1700 So. Second St.,
St. Louis, Mo.

PHOSPHATE DIVISION
1700 So. Second St.
St. Louis, Mo.

RUBBER SERVICE DEPARTMENT
2nd National Bldg.,
Akron, Ohio

MERRIMAC DIVISION
Everett Station
Boston, Mass.

PLASTICS DIVISION
Springfield, Mass.

TEXAS DIVISION
Marshall, Texas

DISTRICT OFFICES

30 Rockefeller Plaza
New York, N. Y.

100 Bush St.
San Francisco, Cal.

Johnston Bldg.
Charlotte, N. C.

Tribune Tower
Chicago, Ill.

605 W. Olympic Blvd.
Los Angeles, Cal.

Fisher Building
Detroit, Mich.

2nd National Bldg.
Akron, Ohio

Everett Station
Boston, Mass.

378 St. Paul St., West
Montreal, Canada

Carew Tower
Cincinnati, Ohio

Brown Marx Bldg.
Birmingham, Ala.

183 Front St., East
Toronto, Canada

ASSOCIATED COMPANIES

New England Alcohol Co.
Everett, Mass.

Monsanto Chemicals Limited,
Victoria Station House
London, S.W. 1.

Monsanto (Australia) Proprietary Ltd.
Cr. Coventry and Dodds Sts.,
South Melbourne, S. C. 4,
Australia

Shawinigan Resins Corp.
Springfield, Mass.

Monsanto (Canada) Ltd.
Montreal

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Walter McEntee
G. A. Scott
William Vieroski
Al Bemarkt

CARONDELET, MO.
L. K. Cowie
Austin Demey
R. R. Renick
Albert Willman

CHARLOTTE, N. C.
John B. Trotter

CHICAGO, ILL.
A. W. Hempelmann

DAYTON, OHIO
Doris Binkley
W. R. Derby
Dr. C. A. Hochwalt
J. E. Malowan

DETROIT, MICH.
Mary G. Denny

EVERETT, MASS.
Edward R. Chapin
Leonard Ciaburri,
Alfred Clancey
Louise Connolly
Robert A. Devlin
Wilfred Ells
Mrs. Rose Marashio
Everett Ray
Edward Rooney
C. Earl Sevrens
Harry Scott
Joseph Valarose
Charles Wilinski
Jean Williams

KARNACK, TEXAS
Marjorie Feaster

LOS ANGELES, CALIF.
C. L. Fetzner

MONSANTO, ILL.
Wilbur Allard
Nelson Church
Thomas Crain
LaVerne Dillard
Kate Doyle
Doris Frees
Ray Groce
Earl R. Hart
J. J. Hoffmann
W. G. Krummrich
L. T. Lanz
Robert Perkins
Bob Rauch
Elmer Ross

MONSANTO, TENN.
A. N. Allen
J. E. Gurvin
S. E. Moore
Louise Morgan
A. R. Sellers
Ed Coker
E. W. Gephart
E. W. Miles

NEW YORK, N. Y.
Miriam Barker
Arthur M. Madsen

NITRO, W. VA.
P. T. Bricker
Dick Cassidy
Robert Cooper
Herb Rimmer
Gilbert Tinsley
Al Wallace
Willie Walters

NORFOLK, VA.
M. W. Pohlman
R. S. Wobus

SHAWINIGAN (Springfield, Mass.)
Mary Bessey
Elizabeth Guidi
Jack Moriarty

SAN FRANCISCO, CALIF.
J. Glenn Hicks

SPRINGFIELD, MASS.
William Ayers
S. H. Colton
Robert Dickey
M. Joseph Glancey
Frank Jackson
Grace Lapine
A. W. Marco
Herbert E. Tolman
Ralph Trombly
Clyde Wakefield
H. D. Woodmansee

ST. LOUIS, MO.
Rose Bieler
R. J. Gillon
Lyndall Grosch
Laura B. Gruetzemacher
W. C. Gusky
J. H. Kernen
Emily O'Laughlin
Bette Sauerburger
Jane Wright

TEXAS CITY, TEXAS
William Bertram
H. K. Eckert
Les Herring
Herb Morris
Conrad Peters
Nina Beth Gay
Winnie Sullivan

TRENTON, MICH.
Vito Agresto
Margaret Frohman
C. Gough
Wayne Jackson
Anthony J. Kulik
Jack Ray
Ruth Riggs
E. J. Swanson
T. D. Tucker
Grace Zanley

RUABON EMPLOYES GUESTS OF HONOR ON RADIO BROADCAST

THE employes of Monsanto Limited at Ruabon, North Wales, were guests of honor recently on a radio program directed to the employes of Monsanto in the United States. Although the program was broadcast via shortwave and its reception in this country was poor, the entire show was recorded for Monsanto and the transcription was forwarded to St. Louis for replaying.

The program, one in a series titled "The Bridge Builders," was handled by the British Broadcasting company and was produced for the purpose of cementing the relations between the British and American peoples through the exchange of greetings and the radio portrayal of the different working habits and conditions of the two countries. The program was opened by the personnel director of the Ruabon plant, who acted as master of ceremonies and sent greetings to America from all Monsanto Limited employes in the British isles. Dr. L. F. Nickell, managing director of the English subsidiary and former manager of the Monsanto, Illinois, plant, was then introduced and spoke his regards to his friends in this country.

Following Dr. Nickell, other Monsanto Limited employes addressed their American fellow workers and told of their production of chemicals for war and their activities in England's Home Defense corps. Throughout the program, although the voices and accents were strange, it was evident that the English Monsanto employes had the same problems and were working and fighting for the same cause as their American fellows.

The program was highlighted by frequent musical numbers by Monsanto soloists and ended with a beautifully performed choral number sung by a group of Welsh singers employed at the Ruabon plant.

ANSWERS TO CHEMICAL QUIZ

1. Table salt, borax, sugar and water are essentially pure chemical compounds. Baking powder is a mixture and ammonia is a water solution.
2. Nitrogen.
3. True. Helium, the safe or non-inflammable gas of lighter than air machines, is found in Texas.
4. Chlorpicrin—Anise (c); Lewisite—Geraniums (d); Phosgene—Musty Hay (b); Chloracetophenone—Apple Blossoms (e); Adamsite—Coal Smoke (a).
5. Vinegar and water would cause an explosion. If allowed to stand in the open air as in the medicine cabinet, it would possibly start a fire. For safety, keep submerged in kerosene.
6. Diamond, Corundum, Quartz, Feldspar, Fluorite, Gypsum.
7. (c)
8. Potassium, Calcium, Aluminum, Zinc and Iron.
9. Hydrogen peroxide.
10. False. It is so called because it is found in large quantities in the tertiary of the Paris Basin.



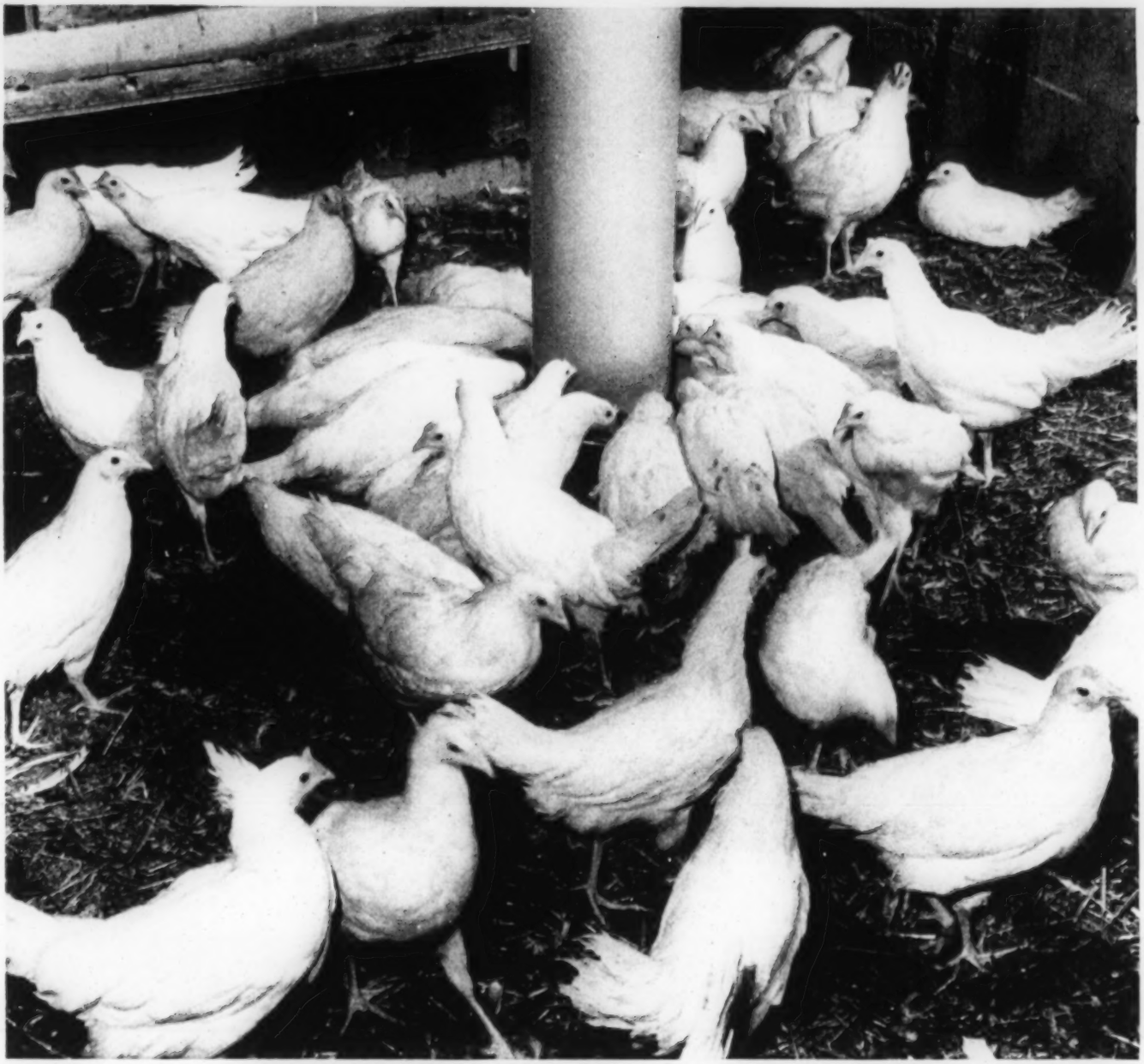
Returned to fiery war-angry action is this electric furnace which is one of three now producing calcium carbide, the raw material of acetylene—the torch of welding, a raw material of synthetic rubber. This satanic unit located at Monsanto's Anniston, Alabama, plant, was recently completed from parts of an outmoded phosphorus producing furnace. Enough electric energy is used by this battery of three carbide furnaces to light a city five times the size of Anniston.

TWO NEW YORK VETERANS WITH MONSANTO 20 YEARS

Two Monsanto veterans at the New York office were guests of honor at informal celebrations during June. They were Roy Ehrhardt and Harry Miles, both of whom observed their twentieth year of service with the company. Ehrhardt completed his second Monsanto decade on June 7 and Miles on June 25.



Hilary A. St. George Saunders (center), author of "Combined Operations—the Official Story of the Commandos," the June "Book-of-the-Month" selection, is pictured during his recent visit to the general offices of Monsanto Chemical Company, in St. Louis. He is shown conversing with two of the company's executives, Gaston DuBois (left), vice-president, and H. M. Hodges (right), director of the Foreign department. Mr. Saunders, who is assistant librarian to the House of Commons as well as official recorder of Combined Operations, recounted many of the Commandos' exciting experiences and dangerous missions. Besides his current book, Mr. Saunders—who writes anonymously—also has written "Battle of Britain," "Bomber Command," "Air-Sea Rescue," "Coastal Command," and other books dealing with British operations in the war.



1) Take one large chicken run, chock-full of fryers ready and willing to add to the pleasures of man. The chickens should weigh two to three pounds and be in the prime of condition.

Come Along to Alabama for a Spirit-Lifting Experience



2) Mix two small boys interested in their work, one chicken coop, and a prime fryer ready for the skillet. This combination is one easy to find in the South and is fun for the boys but hard on the chicken.

THE SOUTH, as you know after reading the first story in this issue, is a potentially great industrial region, but the South for generations has maintained and enhanced its reputation for fine foods. If you have just a moment, and haven't eaten lunch yet, stand by while we go into a fine Southern home and investigate the reputation of Southern fried chicken.

In the first place, the consumption of fried chicken (especially in these days of so-many-points-per-pound-for-beef) is not just a meal, it ranks with any great modern adventure. Gourmets differ on many details of preparing and eating the dish, but all agree that it is hard to excel. Veteran Southern trenchermen vow that if they are so fortunate as to go to the right place in the rosy hereafter, the most enticing entree on the celestial menu will undoubtedly be Southern fried chicken.

So prepare for a spiritual experience. Savor the meal in your imagination, contemplate the brown, crisp pieces. Let the eye of your fancy wander down the broad expanse of snowy linen, pausing at each delectable side-dish and stopping for a leisurely and appreciative examination of the huge platter of hot fried chicken. Southerners claim, and rightly, that real fried chicken is not merely eating—it's living.

Now here is the formula for arrival at that Valhalla of the palate. Follow it faithfully and the experience is yours:

A two or three-pound chicken is about the right size for frying. Pick, wash and cut into pieces of any size you desire. The pieces should be salted



3) Add one expert cook capable of plucking the chicken perfectly so that not even a tiny pin-feather remains. In this task love of work is paramount, because there is nothing appetizing about a half-plucked chicken.

PHOTOS BY ARTHUR F. HIEL, ANNISTON, ALABAMA

and peppered a few minutes before frying so that the seasoning penetrates the meat.

The frying fat should be hot, but not hot enough to scorch the pieces. Dip the chicken in flour and fry promptly—if the meat is left too long in flour before cooking, the flour becomes gummy. Fry until the pieces are nicely brown, turning them just twice. The chicken should be fried in a heavy iron skillet with a tight-fitting lid, and the fat—any good grade of vegetable shortening will do—should be deep enough to cover the pieces about halfway.



4) When sufficient chickens are plucked and cleaned, display on a garnished platter, thus, for the edification of all appreciative eaters and readers.



5) Cut chickens into desired sized pieces, season with salt and pepper, and roll in flour. Do not allow to stand for more than a few moments or the flour will become gummy. Hold on to your appetite, we're nearing the climax.



6) Fry pieces in fat (any good vegetable shortening) in a heavy iron skillet with a tight-fitting lid. Fat should be deep enough to cover the pieces about halfway.



7) Serve hot with such extra and supplementary dishes as might whet the already ravenous appetites of your diners. At this stage it is wise to hoard a few choice pieces for the family since it is fairly certain that little will be left on the platter.

These instructions come from unimpeachable Southern authorities, Eva B. Purefoy of Talladega, Alabama, and M. H. Grotrain of Anniston, Alabama, and the accompanying mouthwatering photographs were made by Arthur F. Hill of Monsanto's Anniston plant, himself a fried chicken expert of no mean capacity. To prove it, he sent this note along with his pictures:

"Ed T. Hyde, manager of the Purefoy hotel, spent most of the day with me in taking the pictures. For my lunch that day I asked that I be served only fried chicken, and as I remember it I was served the following: fruit cocktail, Southern fried chicken, old-fashioned biscuits, tomato salad, raw cranberry relish, potato salad, buttered green asparagus tips, turnip greens, chicken and rice, sweet potato in an orange shell, baked apples, peaches stuffed with dates and nuts, leg of lamb, home baked ham, macaroni and cheese, mushrooms, spaghetti, banana mark, vanilla ice cream and ice box pie.

"I had dinner there, too, but that is another story."

It seems that the Purefoy hotel is maintaining its share of the South's reputation for good food and plenty of it. Now go on with the pictures while we look for a three-pound chicken—for frying.



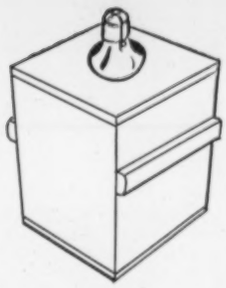
8) To fried chicken add one small boy (this one is Jim Burton) and await developments which should begin within 30 seconds and continue until chicken is devoured. Emily Post might frown on the use of the fingers in eating fried chicken, but south of the Mason-Dixon line any other method would be considered barbarous.



9) The clean-picked bones are bad for cats and dogs and are of very little use to humans, so select three or four wish-bones and find someone to help snap them. If you win, wish for another Southern fried chicken dinner.



What every workman should know



about handling acids in carboys

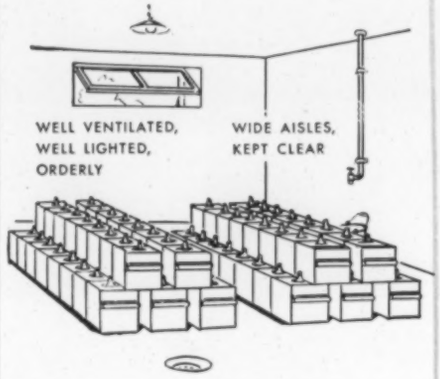
...to avoid interruptions in Victory Production



Men should be thoroughly instructed, properly clothed. Before moving, carboys should be inspected for leakage, loose stoppers. They should never be handled by neck or with hooks.



Thrust prongs of special truck under carrying cleats of carboy, then lift by bearing down on handles. Boxed carboys should *never* be "walked" on their lower edges.



Cinders or concrete treated with sodium silicate are best for storage floors. On dirt floors, place carboys on 2″x 4″ supports. Three tiers high is maximum, two preferable.



In hot weather loosen stoppers of carboys containing volatile liquids to vent pressures that might cause breakage. Provide drainage in storage space in case of breakage.



When opening carboy, keep hands, face to side... never over neck. Never twist or pry off wire holding stopper... use face-type wire cutters. Never empty by applying air pressure.



Finally, never use a carboy to hold anything but same product it originally contained. Drain completely to prevent spillage in rehandling. Return as promptly as possible.

These suggestions are offered as reminders to all who handle acids in carboys... and particularly as reminders to those who are charged with training new employes. They are based on one of a series of bulletins published by the Manufacturing Chemists' Association. For specific chemicals conservation suggestions for your plant or assistance in training new employes to handle chemicals safely, write: MONSANTO CHEMICAL COMPANY, St. Louis, Missouri.

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

"E" FOR EXCELLENCE— The Army-Navy "E" burgee with two stars, "representing recognition by the Army and the Navy of especially meritorious production of war materials" over a two-year period, flies over Monsanto.



. . . and we have THIS to say about METALS

THIS advertisement by a leading light metals producer talks good, common sense. Obviously, plastics are not going to put metals out of business—as some Sunday feature writers would have you believe. Both groups of materials are cast for leading postwar roles in what we all hope will be a bright new world. Both have their own, unique advantages.

Plastics, for example, are marked by high resistance to chemical and atmospheric attack. They are light. They have excellent electrical insulating values and many desirable thermal properties. They offer a range of integral colors practically as wide as the spectrum, and many forms are transparent, translucent or opaque as the customer specifies. They can be molded into intricate shapes that require little, if any, finishing. They are warm and friendly materials to touch.

On the other hand, no molded plastics have yet been developed that equal metals for surface hardness, heat resistance, rigidity or structural strength per unit of area. Conventional molding methods require expensive molds and high heat and pressure limiting them to production of relatively small objects in relatively large quantities.

In short, there will be many a postwar job where metals will be a clear and obvious first choice.

There will be many other postwar jobs which logically call for plastics.

There will also be many occasions when plastics and metals will work together on the same job.

And there will be other times when a materials engineer will be hard put to make a choice.

Frankly, as one of the nation's largest producers of plastics, Monsanto would rather lose some of those close decisions than win a job which plastics could not handle. In the long run, one such misapplication can lose more business for plastics than losing a dozen close decisions.

MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

MONSANTO PLASTICS



"E" FOR EXCELLENCE—The Army-Navy "E" burgee with two stars, "representing recognition by the Army and the Navy of especially meritorious production of war materials" over a two-year period, flies over Monsanto.

SERVING INDUSTRY . . . WHICH SERVES MANKIND



Marine pack-boy, used here as a test, and also worn as a face cape, is made water repellent by rubber-like Silicone. The Monsanto Thorite that converts water into a secondary source when Pacific is too far off, or enemy-infested. Thorite is packaged in one-gallon tablets. Simple process, portable with stomach, back and dog-paddling.

How'd THIS get out of our kitchen?

That? Oh, that's the photographer's quick way of saying that even out here in the steaming jungle swamps, Army and Navy health engineers are on the job to keep your drinking water as safe as if the tap from your family kitchen stood just outside your tent.

Long before you started overseas, these sanitary engineers and chemists of our armed services tackled this job. They knew a drop of untreated water from a South Pacific jungle swamp, a tepid desert pool or a polluted European stream could be deadly as a bullet. Yet, they could not ship all the pure water you'd need, half around the world.

Instead, the Army and Navy drew on the years of public health experience and research of the water engineers and chemists of America . . . and developed *portable* plants for chemical purification and scientific filtration of whatever water supplies you'd find.

These mobile units—miniatures of the scientific water treatment plant in your own home town—travel with you right to the battle fronts to pump, filter and chemically purify your drinking water.

That's one reason why you and your companions are the world's healthiest soldiers. Another reason, too, why American standards of sanitation, now being carried by you around the globe, will mean a healthier, better world tomorrow. MONSANTO CHEMICAL COMPANY, St. Louis.

HOW MONSANTO SERVES—Sixteen Monsanto Chemicals help make America's drinking water the safest in the world. These chemicals are used for sterilization, coagulation, softening, removal of taste, odor and color, and as correctives. Included among them are ammonia, caustic soda, chlorine, Ferrisul, filter alum, sodium aluminate, sodium bisulfite, sodium sulfate (anhydrous), sulfuric acid.

MONSANTO CHEMICALS

"E" FOR EXCELLENCE—The Army-Navy "E" burgee with two stars, "representing excellence in the Army and the Navy especially meritorious in production of war materials" over a two-year period, flies over Monsanto.

SERVING INDUSTRY . . . WHICH SERVES MANKIND

OCCUPATIONS + INDUSTRIES - CIVIL SERVICE

Things you'd like to know about Federal Service . . .

THE Federal civil service offers many attractions and compensations to women. Not only is there opportunity for interesting work, but there are many fields from which to choose. Whether your talents are for technical, professional, or clerical work, you may find the outlet for your abilities in some phase of Government activity.

Compensation for Federal employees has been increased over the basic salaries to cover current war-time living costs. A detailed chart giving increases is shown on the back of this folder. The present work week is 48 hours.

Annual leave with pay is granted to each employee on the basis of 26 days a year. Although the individual may not be allowed to take all this leave during the year under war conditions, she may accumulate the remainder to enjoy later. Sick leave with pay, granted on the basis of 15 days a year, may also be accumulated to be used in case of emergency.

Needs exist in all brackets—in administrative and scientific positions and in clerical positions of various grades. The Federal service offers a basis for establishing a career in many fields. With broadening of knowledge and increase in responsibility, there is excellent opportunity for advancement, depending on the ability of the individual.

The conditions of work in Federal agencies make the Federal service particularly attractive. In clean and pleasant surroundings, women can make a substantial contribution to the war effort in work that proves a satisfaction to themselves.

Openings exist in Federal agencies not only in Washington, D. C., but also throughout the United States. Many women can engage in Federal war work not far from their present homes. Others can enjoy a change in environment where they may meet new friends and adventures.

You have an excellent chance to be appointed. Requirements for Federal war-service appointments have been cut to a minimum. Physical requirements have been greatly modified. For nearly all positions there are no age limits, or only a minimum of 18 years. The maximum age limit, except in a few necessary cases, has been abolished. Since this is true, many women with mature judgment and experience may use their abilities in Federal war jobs.

You may be glad to know that no written test is required for most positions. Filing application with the United States Civil Service Commission is all that is necessary. The Commission judges the applicant upon the basis of her experience and education, as stated in the application and as corroborated by the Commission. When selected for a definite vacancy, the applicant receives appointment to a war-service position.

Here's what your actual compensation will be

(Basic salaries plus overtime increase)

Federal salaries up to $5,000 were increased by legislative action effective in December 1942, to compensate for longer working hours and the higher cost of living. Salaries stated in this folder are the basic salaries set by the classification system.

You can ascertain what your actual salary under the new legislation will be by referring to the scale below. You will see that the total actual compensation received for the year, on this basis, amounts to approximately 21 percent more than the basic salaries listed, up to and including $2,900. Salaries are subject to a 5 percent retirement deduction, as well as victory-tax deduction.

The present Federal work week is 48 hours—that is, 6 eight-hour days.

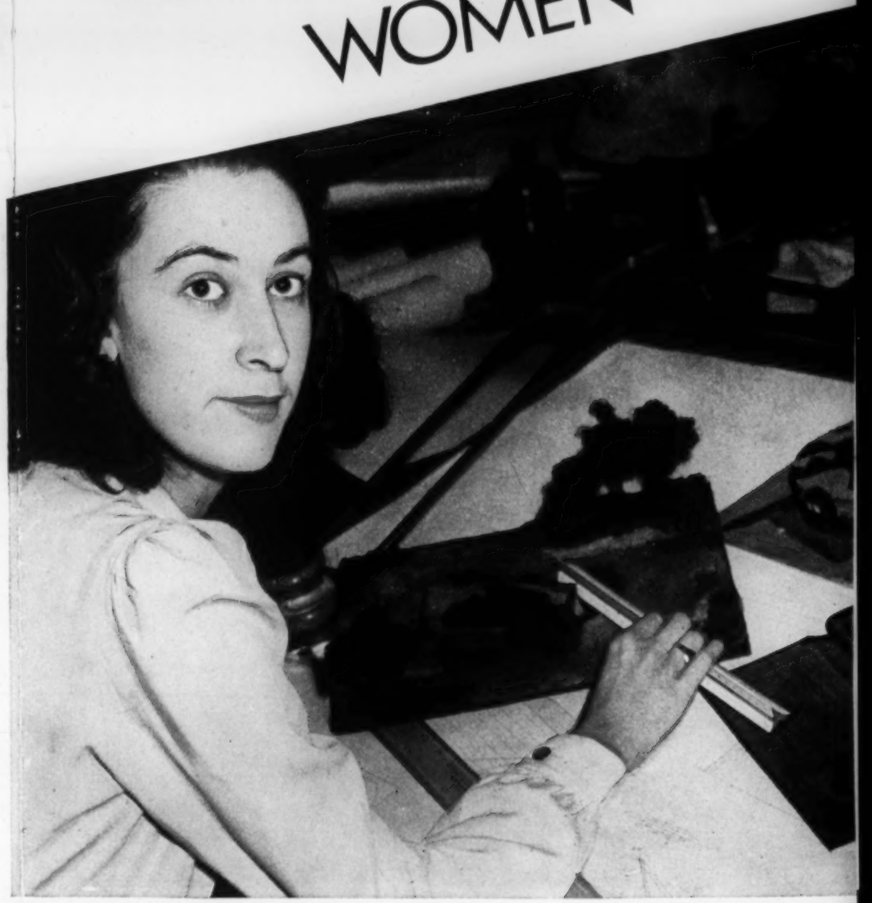
Basic salary (*per annum rate*)	With added increase (*per annum rate*)	Monthly salary
$1,260	$1,532.88	$127.74
1,440	1,752.00	146.00
1,620	1,970.88	164.24
1,800	2,190.00	182.50
2,000	2,433.14	202.76
2,300	2,798.16	223.18
2,600	3,163.20	263.60
2,900	3,528.24	294.02
3,200	3,828.24	319.02
3,800	4,428.24	369.02
4,600	4,999.92	416.66

UNITED STATES CIVIL SERVICE COMMISSION, Washington, D. C.
February 1943

U. S. GOVERNMENT PRINTING OFFICE 16—32933-1

Calling WOMEN

Ref copy



for Federal War Work

. . . seize the tools men leave, for Victory!

TOTAL war makes demands upon all the resources of our country—its materials, its production, its entire population. As men are drawn into fighting forces, women of America are called upon to seize the tools they leave in order to continue activities essential to civilian welfare, and to safety and offensive ability of our fighting forces. An influx of women is necessary in industry and government—in research, in planning, in production, and in administration.

The Federal Government is confronted with a huge replacement problem—that of filling numerous vacancies in essential activities with women. Also, the necessity of coordinating national effort in the conduct of war has led to an expansion of certain governmental activities, requiring additional personnel.

The women of America constitute a vast source of latent talent and energy, which, if Federal war work is not to be hampered, must be made accessible to the Government's employment demands. The problem at hand is to translate the potential power of women into productive power for war.

Many women are already qualified, with respect to training and experience, to fill civilian positions in Federal war agencies. Other women must take additional training to handle the task, or must go into unfamiliar fields in order to learn the kind of work that is necessary to winning the war. Whatever the task presented, American women, through their store of training and aptitude for learning new techniques, possess inherent qualities and confidence that make them capable of handling essential war duties.

In time of stress, patriotism impels a desire to contribute materially toward victory. American women, eager to serve their country during the crisis, may engage in activities in the Federal service that contribute both to the speeding up of the flow of materials to the fighting front, and to the maintenance of economic stability and national welfare at home.

Women—you are called upon to make your abilities ready where they are urgently needed. Through applying to the United States Civil Service Commission, you can offer your services to the Federal Government, so that you may be available for war-service appointments.

? Any questions? Find your answer here . . .

Q. What can I do if I have experience or training?

A. SELECT a position in the field in which you have had experience. Read the Commission's announcement concerning it; if you are qualified, apply. Appropriate experience may qualify for such positions as inspector, medical technician, training specialist, technologist, photostat operator, tabulating equipment operator, photographer, and statistician. OR,

APPLY for such positions as typist, stenographer, teletype operator, or radio operator, if you have the necessary skill. OR,

ENROLL in an appropriate ESMWT course, if there is no demand in the field in which you are experienced, in order to become qualified for war activity in which an urgent need exists.

Q. What can I do if I have had college study?

A. CONSULT announcements of positions as technical assistant in engineering, metallurgy, or physics; technical and scientific aid; chemical aid; engineering draftsman; engineering aid; inspector of aeronautical engineering materials; inspector of naval ordnance materials; inspector of ship engineering materials; and student instructor for Army Air Forces Technical and Navy Aviation Service schools. If qualified, apply. For some Federal positions, college study will be accepted for experience lacking.

Q. What can I do if I have completed my college education?

A. APPLY for Junior Professional Assistant positions. OR,

APPLY for positions as junior astronomer, junior chemist, junior engineer, junior geologist, junior metallurgist, junior meteorologist, or junior physicist, if your major study is in the appropriate field. OR,

APPLY for a position where you can obtain on-the-job training in work related to the war effort, or take additional training to enable your going into a different field of activity, if there is not a sufficient demand in the field in which you had your major study. OR,

STUDY free engineering courses to become qualified for junior engineer work, regardless of the field in which you had your major study. For details, read the Commission's announcement concerning junior engineer positions.

NOTE.—College seniors may apply while still enrolled, and, when selected, receive appointment prior to graduation, with entrance on duty deferred until completion of the course.

Q. What can I do if I have no special training or experience?

A. ENROLL in an ESMWT course, to prepare yourself for an interesting war job.

Q. For what positions may I qualify through tuition-free war training courses?

A. Completion of an appropriate approved war training course will qualify for positions as technical assistant in engineering, metallurgy, or physics; engineering aid; engineering draftsman; lithographer; technical and scientific aid; student instructor for Army Air Forces Technical and Navy Aviation Service schools; radio mechanic-technician; inspector of aeronautical engineering materials; inspector of naval ordnance materials; and photographer.

Appropriate ESMWT courses may aid in qualifying as junior engineer, junior meteorologist, and junior metallurgist.

While enrolled in an ESMWT course, you may apply for the position you are seeking. If otherwise qualified, upon being selected for a definite vacancy you will receive provisional appointment, with entrance on duty deferred until completion of the course.

Q. Where may ESMWT courses be studied?

A. These tuition-free courses, sponsored by the United States Office of Education, are offered at approximately 200 colleges and universities throughout the country. Perhaps a college near your home is giving such courses.

Q. What are my chances for advancement?

A. If you have abilities that will fit you for more responsible work in the Federal service, and if you show efficiency on the job, the opportunity for advancement to more interesting and responsible work is favorable.

Q. How do I apply for Federal service?

A. See the Commission's announcement giving information concerning each position, and read thoroughly. Announcements and forms for applying may be obtained at first- and second-class post offices throughout the country (except in the Commission's regional headquarters' cities, where they must be obtained from the regional office), or from the Commission's Washington, D. C., office. Fill out application forms. Send to the U. S. Civil Service Commission, Washington, D. C.

Q. Are there other Federal service opportunities?

A. Yes; there are many others in addition to those listed in this folder:

SEE "Opportunities in the Federal Service" (Form 2279) posted in first- and second-class post offices throughout the country and in the Commission's regional offices.

FILL OUT Form 57 (or 8) and send to the U. S. Civil Service Commission, Washington, D. C. You will be considered for appropriate vacancies for which your experience or education qualify you.

INVESTIGATE opportunities available through the Commission's regional offices by inquiring at first- and second-class post offices, or, in regional headquarters' cities, at the addresses listed below:

Atlanta, Ga., New Post Office Building; Boston, Mass., Post Office and Courthouse Building; Chicago, Ill., New Post Office Building; Cincinnati, Ohio, Post Office and Courthouse; Denver, Colo., New Customhouse; New Orleans, La., Customhouse; New York, N. Y., Federal Building, Christopher Street; Philadelphia, Pa., Customhouse, Second and Chestnut Streets; Seattle, Wash., Post Office Building; St. Louis, Mo., New Federal Building; St. Paul, Minn., Post Office and Customhouse; San Francisco, Calif., Federal Office Building; and Winston-Salem, N. C., Nissen Building.

★ Women May Serve in These Federal Positions ★

Women of America—

you are called on to make your abilities available to Federal civilian war service!

The Federal Government needs qualified workers. You can serve in fields listed here. Choose the field where you believe you may make your best contribution. If you are using your highest skills in war work, or if you are prohibited from change of employment through War Manpower Commission restrictions, do not apply.

For information concerning each position, secure the Commission's announcement and read thoroughly to ascertain whether you are qualified. Obtain the necessary application forms, available, together with announcements, at first- and second-class post offices.

File applications with

UNITED STATES
CIVIL SERVICE COMMISSION
WASHINGTON, D. C.

Are you interested in Science . . .

WOMEN ARE NEEDED for scientific work. Scientists, piercing the secrets of more effective weapons in the laboratory, are waging a fight that is sometimes preliminary to victories on the battlefield. Federal agencies demand women workers for research, experimentation, and investigative analysis in many scientific fields. Experiments, from testing in ballistics to determining the vitamin content of foods for fighting men, must be performed in activities not only relative to the war offensive, but also vital to national defense and welfare at home.

The most critical shortage in the scientific field is in physics. If you have some training or college study in the field of physics or are able to enroll in an ESMWT course in physics, you may contribute to the war effort where the need is pressing by making your abilities available to the Federal service.

The demand is intense also for metallurgists, meteorologists, chemists, mathematicians, geologists, geographers, pharmacologists, and technologists. Applications from women with training or education in these sciences are sought.

Physicists are employed chiefly in the Bureau of Ships of the Navy Department, and in the National Bureau of Standards of the Department of Commerce. Agencies employing chemists constitute a larger group, including the National Institute of Health, Bureau of Home Economics, Food and Drug Administration, Bureau of Plant Industry, as well as the National Bureau of Standards. Pharmacologists are utilized in the National Institute of Health and the Food and Drug Administration.

The Weather Bureau employs many meteorologists. More are needed. Women with 2 or more years of college study are being sought for positions as weather observer or weather map plotter, as well as for other positions in meteorology.

Women mathematicians are urgently required in the Coast and Geodetic Survey; women geologists, in the U. S. Geological Survey. Female geographers are employed in the War Department, National Archives, Office of Strategic Services, and Bureau of Economic Warfare.

For the War Production Board, persons are sought with technical experience in rubber and plastics, or training in organic synthesis, particularly in processes that might be applied to synthetic rubber development.

College graduates with scientific majors from recognized colleges may qualify for positions as junior scientists in the fields indicated above. Lacking this education, you may qualify as an assistant or aid to scientists, with opportunity for valuable on-the-job training and subsequent advancement, with only a small amount of training or college study in the appropriate field. Tuition-free ESMWT courses in the appropriate science may open the way to fields in which you may be interested in serving.

See the formal announcements for full information (salaries are basic and annual):

Junior Astronomer, $2,000
(Naval Observatory, Washington, D. C.)
Chemical Aid, $1,800
Chemist, $2,000 to $5,600
Junior Geologist, $2,000
Metallurgist, $2,000 to $5,600
Meteorologist, $2,000 to $4,600
Pharmacologist, $2,600 to $5,600
Physicist, $2,000 to $5,600
Technical and Scientific Aid (Open only to women), $1,440 to $2,000
(Options: Radio, Explosives, Chemistry, Physics, Metallurgy, Fuels)
Technologist, $2,000 to $5,600
(Any specialized branch)
Toxicologist, $2,600 to $4,600

Are you interested in Engineering . . .

WOMEN ARE NEEDED for engineering work. There is an increasing number of engineering vacancies in the Federal Government—resulting from the induction of men into the armed forces and the growing production for war. Because of the scarcity of engineers, the Government will employ for engineering duties persons with training in related fields who have a small amount of engineering study. Countless women must prepare themselves for engineering work. They can do this through short tuition-free courses under the Office of Education War Training program. By making engineering their choice, women may assist where the need is most pressing.

So acute is the need for junior engineers that an ESMWT course has been specially planned to enable college women with a major in *any* field to become qualified for engineering activities. You may apply for junior engineer positions if you have completed your college course in a recognized college (or are enrolled in your senior year therein) with a major in *any* field, provided you enroll in the special course "Engineering Fundamentals, Junior Engineer-Supplemental." If your major is in astronomy, chemistry, geology, mathematics, physics, or engineering sciences, you can qualify by (1) having completed only 6 semester hours in strictly engineering subjects, or (2) enrolling in *any* ESMWT course in engineering.

Completion of college education is not necessary for other positions in engineering. With as little as 6 semester hours of college study in mathematics, physics, or engineering, or a combination of these subjects, and one year of college, you may be qualified to do subprofessional work as technical assistant in engineering. You may also become qualified through appropriate ESMWT courses.

You may serve as an aid in photogrammetric or topographic work with appropriate college study and some specialized experience or training. With appropriate experience or study, you may be qualified to inspect aeronautical, ship and ordnance materials. If drafting is your interest, you may be utilized in engineering drafting even though your drafting training has been in fields as remote as commercial art or interior decorating.

Engineering has many branches attractive to women. Feminine aptitudes may be well adapted to engineering design, testing and inspection, research, preparation of plans and maps, and computation. Women engineers may accomplish work as important as that of the men they are releasing; and in contributing to vital war needs may gain experience that will prove interesting and valuable.

Information concerning engineering positions is contained in the following announcements (salaries are basic and annual):

Junior Engineer, $2,000
Engineer, $2,600 to $6,500
Engineering Aid, $1,440 to $2,600
(Options: Photogrammetric, Topographic)
Technical Assistant, $1,440 to $1,800
(Options: Engineering, Metallurgy, Physics)
Engineering Draftsman, $1,440 to $2,600
Inspector, Aeronautical Engineering Materials, $1,620 to $2,600
Inspector, Ship Engineering Materials, $1,620 to $2,600
(Options: Steel hulls, Mechanical, Electrical, Radio)
Inspector, Naval Ordnance Materials, $1,620 to $2,600

Are you interested in Other Fields . . .

WOMEN ARE NEEDED in various other fields.

Dietetics, photography, social work, economics, and radio are only a few of the fields in which women may find opportunity to make their contribution to the war effort.

The Commission is recruiting qualified persons for the positions listed below (salaries are basic and annual):

Economist and Economic Analyst, $2,600 to $6,500
Library Assistant, $1,260 to $1,620
Photographer, $1,440 to $3,800
(Women especially desired)
Radio Mechanic-Technician, $1,440 to $2,600
Radio Operator, $1,620 and $1,800
Staff Dietitian, $1,800
Transportation Specialist, $2,600 to $6,500
Statistician, $2,600 to $6,500
Trainee, Junior Aeronautical Inspector, $2,600
(Pilot's certificate required)
Student Instructor, $1,620 and Junior Instructor, $2,000, in the Army Air Forces Technical and the Navy Aviation Service schools
(File applications for this position with the Secretary, Board of U. S. Civil Service Examiners, Rantoul, Illinois)

Are you interested in Office Work . . .

WOMEN ARE NEEDED for clerical, secretarial, and other office work. Such Government programs as Nation-wide rationing, control of materials to speed war production, and research in varied fields—from nutrition to explosives—could not go forward without clerical help in the agencies. For these and other war programs, a vast force is needed—particularly in Washington, D. C., but also throughout the United States.

Entrance salaries to many of these positions are $1,260 and $1,440 a year plus overtime; opportunity for advancement is good.

Typists and stenographers are continually needed. Should you seek a definite position such as receptionist, private secretary, or personnel clerk, one approach is to enter the Federal service as typist or stenographer, and watch for advantageous openings. The work in the office in which you are originally placed may prove so intriguing that your best opportunities will come from gaining a thorough knowledge of the work at hand.

The demand for office machine operators is definitely increasing, especially for operators of alphabetic card-punch, tabulating, and horizontal sorting machines. Appropriate experience or training in the operation of the machine involved is qualifying. Many Federal agencies are carrying on training programs for office machine operators through the "understudy" method. Very often an employee advances to the position of supervisor of tabulating equipment operators, and to that of senior alphabetic tabulating machine operator; or to clerical positions paying higher salaries. Advancement, of course, depends upon the abilities of the individual.

Because of the demand for clerical workers and operators of various office machines, the opportunities to be considered for appointment for those who qualify are very good. See announcements for positions listed below (salaries are basic and annual):

Addressograph Operator, $1,260 and $1,440
Alphabetic Card-Punch Operator, $1,260
Blueprint Operator, $1,260 and $1,440
Bookkeeping Machine Operator, $1,620
Calculating Machine Operator, $1,440
Photostat Operator, $1,260 and $1,440
Rate Clerk, Freight and Passenger, $2,300 and $2,600
Graphotype Operator, $1,260
Horizontal Sorting Machine Operator, $1,260
Mimeograph Operator, $1,260
Multilith Cameraman-Platemaker, $1,620
Multilith Press Operator, $1,440
Office Appliance Repairman, $1,860
(Typewriter repairmen particularly needed)
Stenographer, $1,440
Tabulating Equipment Operator, $1,620 to $2,000
Tabulating Machine Operator, $1,260 and $1,440
Teletype Operator, $1,440 and $1,620
Typist, $1,260 and $1,440

Are you interested in Medicine or Nursing . . .

WOMEN ARE NEEDED in the medical and nursing fields for Federal duty.

Because of the demands of war upon the medical and nursing profession, there is a shortage of trained personnel in all branches. The requirements of the Federal service for such personnel are great. Women who have had medical or nursing training and whose highest skills are not presently being utilized where they may best serve the war effort are urged to make their training available to the Federal civilian service.

The U. S. Civil Service Commission is seeking nurses for important work in the following Federal agencies: Veterans Administration, Public Health Service, and Indian Service. Basic salaries range from $1,620 to $5,600 a year.

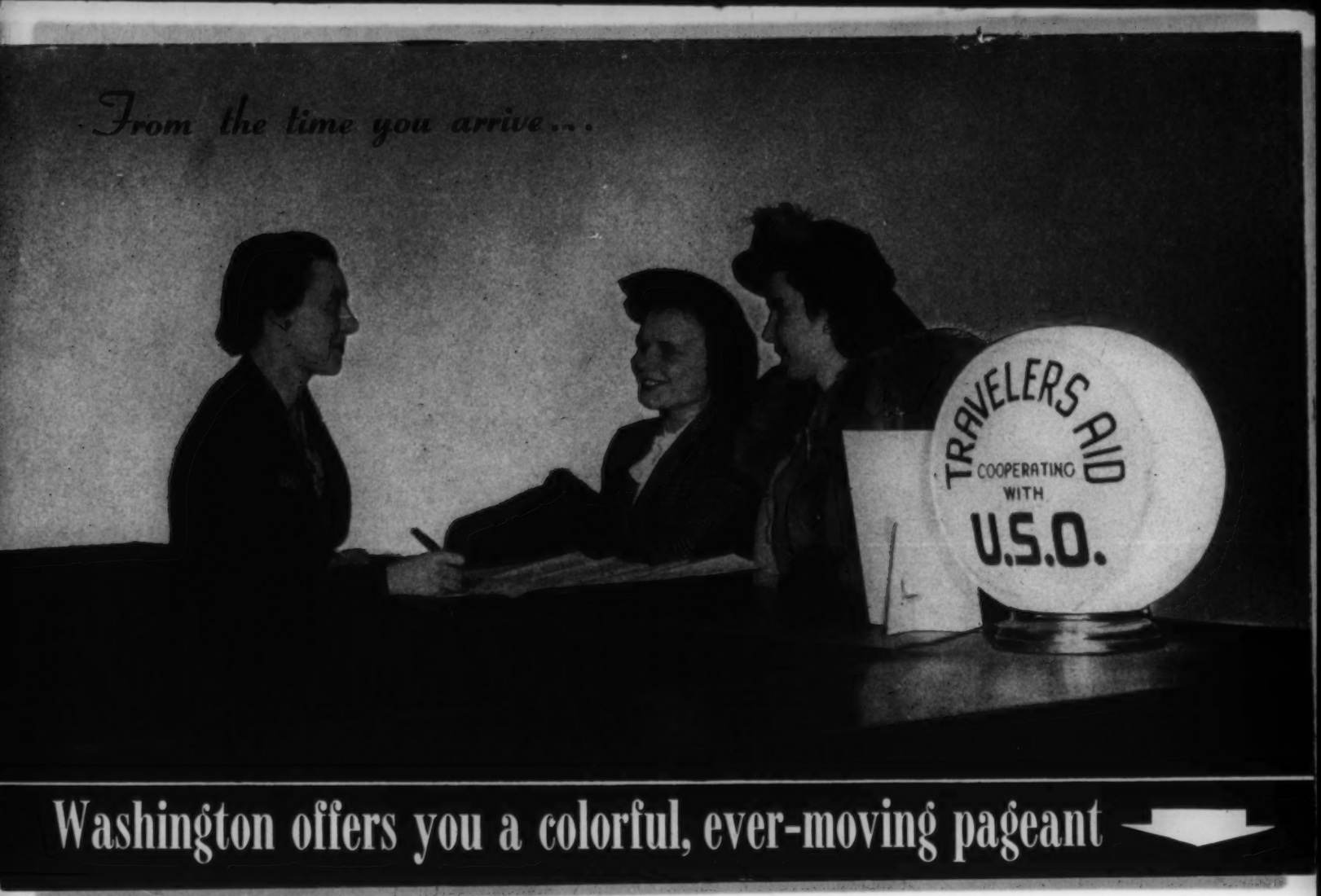
The Commission is seeking applications from qualified persons for the positions listed below (salaries are basic and annual):

Dental Hygienist, $1,620
Physiotherapy Aide, $1,620 and $1,800
(Options ($1,620 positions only): General, Neuropsychiatric hospitals)
Apprentice Physiotherapy Aide (open to women only), $1,440
Student Physiotherapy Aide (open to women only), $420 (less a deduction of $360 a year for subsistence and quarters)
Medical Officer, $3,200 to $4,600
Medical Technician, $1,620 to $2,000
(Options: General, Roentgenology, Surgery)
Laboratory Helper, $1,440
Graduate Nurse, entrance salary—The Panama Canal, $168.75 a month; in the United States, $1,800
(Options: General staff duty, Anaesthesia, Psychiatry) Maximum age limit for The Panama Canal, 40 years
Junior Graduate Nurse, $1,620
Public Health Nurse, $1,800 and $2,000
Nursing Education Consultant, $2,600 to $4,600
Public Health Nursing Consultant, $2,600 to $5,600

Are you interested in Administration . . .

WOMEN ARE NEEDED in administrative capacities. The successful conduct of much Federal war work depends upon the administrative ability behind it. Women with administrative leadership and experience in such varied fields as fiscal analysis, housing, labor relations, and industrial management can make a great contribution to the war effort by making their services available for Federal war service appointments.

★ Women May Serve in These Federal Positions ★



Washington offers you a colorful, ever-moving pageant

You will feel welcome the minute you arrive in Washington.

Experienced Travelers Aid Society advisers will be on hand in the station to help you get started. A representative of the U. S. Civil Service Commission works with the Travelers Aid bureau at Union Station in assisting incoming Federal Workers.

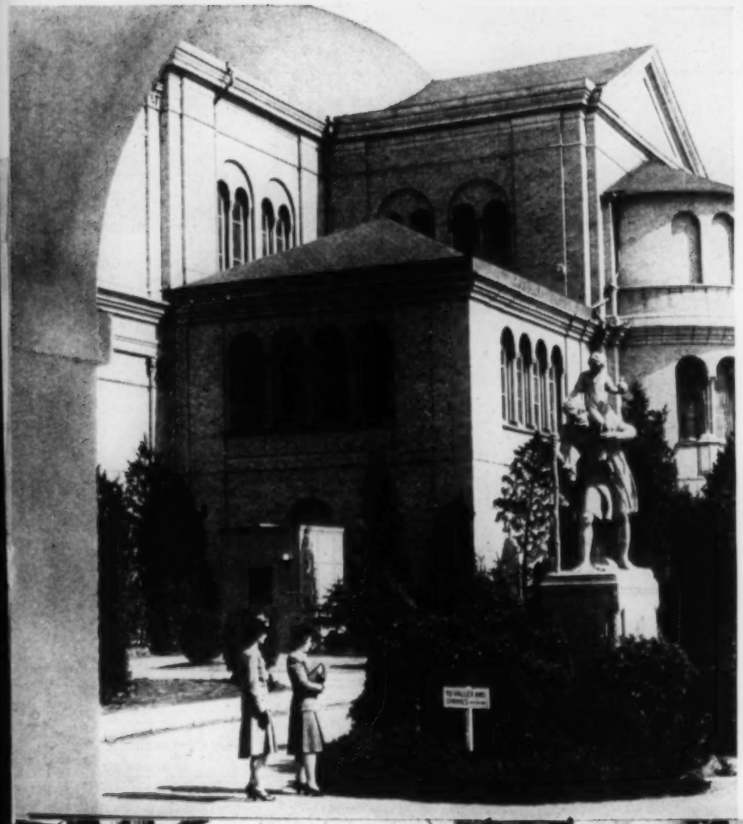
Housing shortage? No. Washington has responded to the need for accommodating war workers . . . and there are hundreds of rooms available. You may save time in looking for a room by seeking the help of your agency counselor or personnel officer in contacting sources of registered rooms, or by visiting personally the War Housing Center at Fourteenth Street and Pennsylvania Avenue NW.

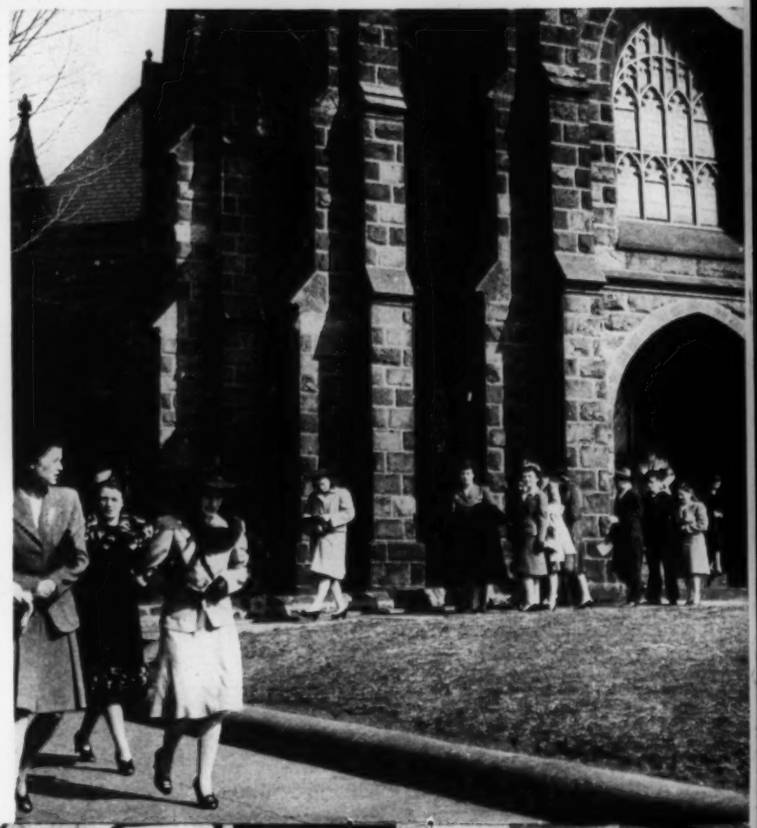


YOU have a good chance of finding just the type of rooms you want, and at a price you can afford. Some apartments are available. Washington covers a large area, and living conditions vary with different localities. "Downtown" is more crowded . . . "farther out" usually means longer travel time. In whatever part of the city or suburbs you are located, you will be near the transit system of busses and trolleys, which has been enlarged to meet war needs. You may be able to join a car pool, and thus shorten travel time.



You will be able to attend your own church, and visit other national shrines, temples, and cathedrals.







Crowded? Yes, but no more so than any other busy war center. The traffic officer on historic Pennsylvania Avenue represents a police force doing its utmost to make Washington a friendly city for war workers.

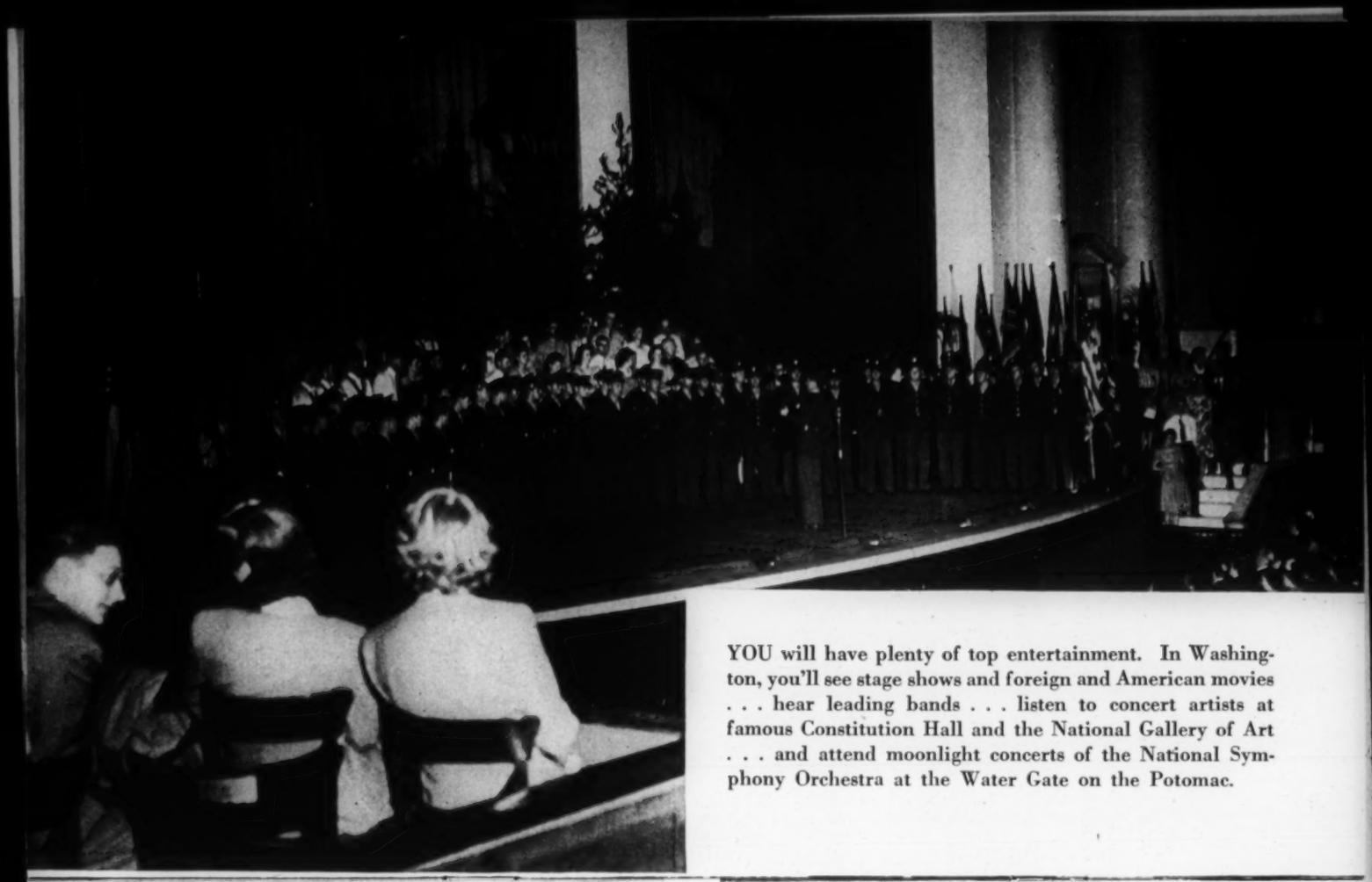
Federal agencies...center of the Nation's war program

HERE, technical, scientific, and clerical personnel are doing their part to accomplish war objectives. Additional clerical workers are needed. Without adequate personnel, serious delays occur, a planned program may fall through. Here, you can assist in important activities as a typist or stenographer, writing necessary communications; or as a clerk, keeping data orderly and available for use.

Millions of people throughout the world today look to Washington for security. For many, it represents a hope for freedom, for food, for a future. *You can help make their hope a reality by working in a Federal position as a clerk, typist, or stenographer.*

Secure your appointment in a Federal agency *today* through the United States Civil Service Commission.





YOU will have plenty of top entertainment. In Washington, you'll see stage shows and foreign and American movies . . . hear leading bands . . . listen to concert artists at famous Constitution Hall and the National Gallery of Art . . . and attend moonlight concerts of the National Symphony Orchestra at the Water Gate on the Potomac.

WASHINGTON is a cultural and educational center. You will see world-famous treasures in museums and art galleries. You may enroll for evening study at one of the local accredited colleges and universities.

There, with persons of similar interests, you may study free war-training courses in science or engineering to advance you in your work, or other specialized courses creditable toward a degree.



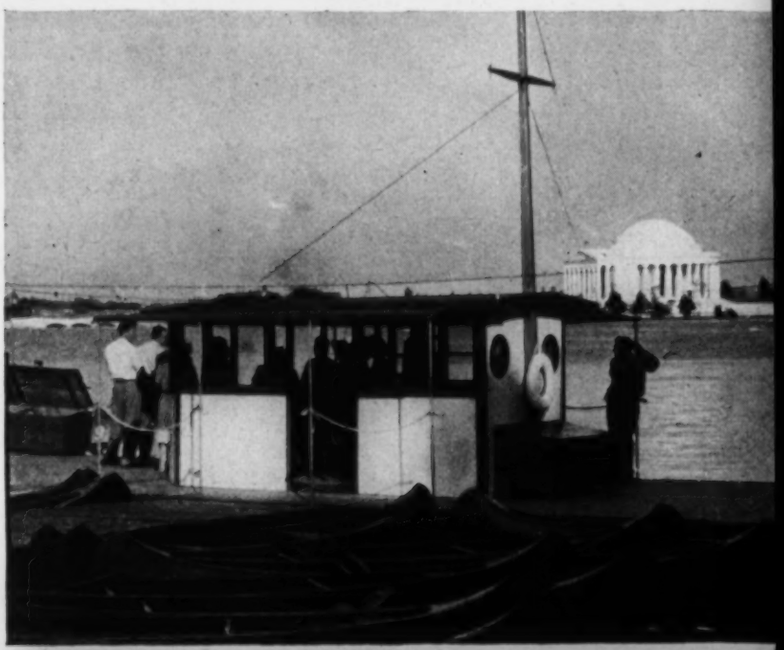




YOUR Government job will keep you busy 48 hours of the week, but in your leisure time you may enjoy Washington's recreation facilities.

You can relax in Rock Creek Park, which extends for miles through the heart of the city with natural wilds untouched except for the provision of picnic grounds, play areas, bridle paths, nature trails, and the zoo.

On the Tidal Basin, inlet of the Potomac, you can canoe in quiet waters past beautiful Jefferson Memorial.







YOU will have fun . . . with people from your own and other States. At your State society entertainments, you may meet your Congressman and others from "back home." You can bicycle with your friends along the Potomac and enjoy the beauty of cherry trees and the river. In USO clubs, you may relax and enjoy the entertainment provided for war workers, or you may learn to be a hostess. Your Federal agency counselor or personnel officer can tell you about dances, theatricals, art clubs, amateur orchestras, and hobby clubs.



Come

To WASHINGTON!

Serve in a Federal war job as a clerk, typist, or stenographer.

Ask for information concerning tests and appointments at your nearest first- or second-class post office, U. S. Civil Service regional offices, or from the U. S. Civil Service Commission, Washington 25, D. C.

There are opportunities for Federal war service in other fields. Perhaps your higher skills are in scientific or engineering work. Ask about the following Federal positions:

Junior engineering draftsman, $1,752 a year (including overtime pay). No written test is required. Appointees will learn subprofessional duties in the field of drafting in such agencies as the Department of Commerce and Navy Department.

Trainee, scientific and technical aid, $1,752 a year (including overtime pay). Written test required. Trainees will learn to do simple routine mechanical or scientific work in technical laboratories, in such agencies as the National Bureau of Standards, the Weather Bureau, the Bureau of Mines, the National Institute of Health, and the Department of Agriculture.

Appointments as trainee, scientific and technical aid will also be made to positions in photographic laboratory work in the War Department.

Get information at your nearest first- or second-class post office, at U. S. Civil Service regional offices, or from:

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UNITED STATES CIVIL SERVICE COMMISSION

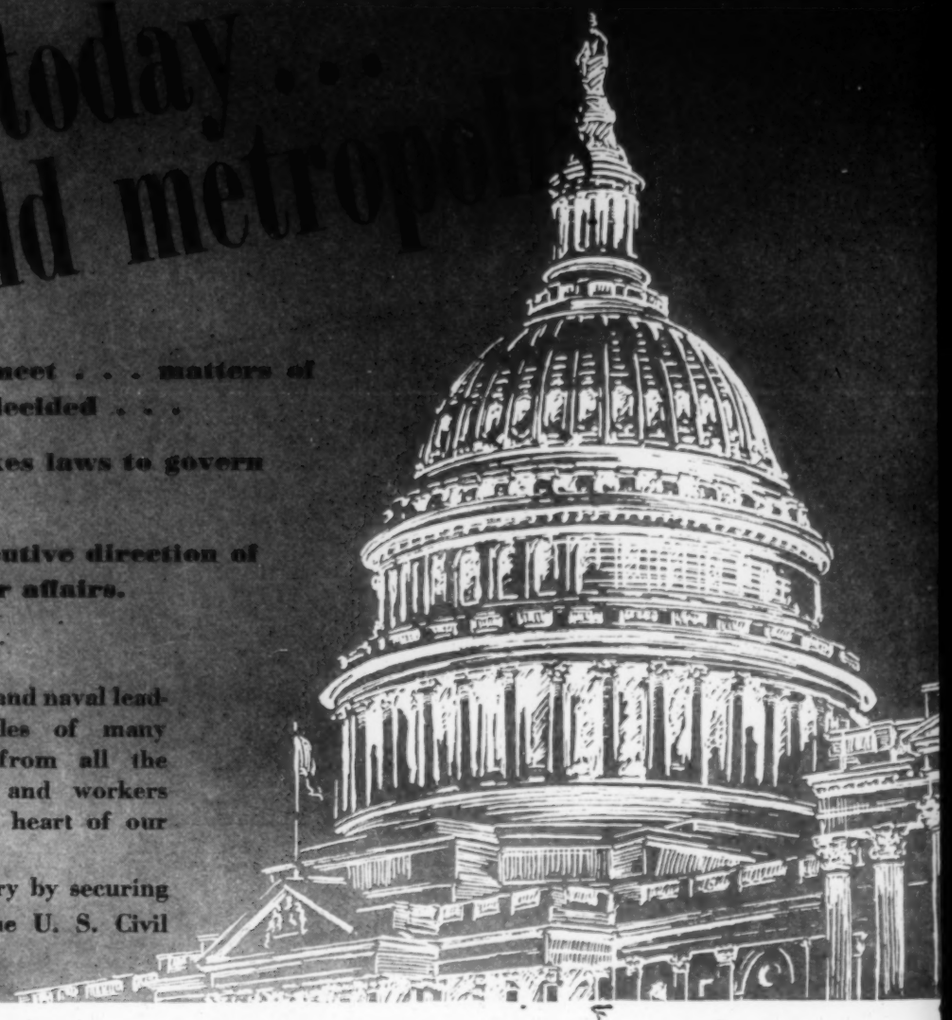
Washington, D. C.



TYPISTS, STENOGRAPHERS, AND CLERKS

Washington needs you!

Washington today . . . world metropolis



WHERE leaders of nations meet . . . matters of world-wide importance are decided . . .

Congress in open debate makes laws to govern 130 million people . . .

Federal agencies, under executive direction of the President, administer war affairs.

To Washington . . . come military and naval leaders . . . rulers, diplomats, notables of many countries . . . men in uniform from all the Allied nations . . . businessmen, and workers from all States . . . drawn to the heart of our Nation.

You can come to work for victory by securing a Federal appointment through the U. S. Civil Service Commission.

TO BE A CLERK, typist, or stenographer in a Federal agency, you must pass a civil-service test, and be at least 17½ years old.

As clerk or typist, you will receive $1,752 a year, or $146 a month (including overtime pay).

Most stenographer appointments are also made at salaries of $1,752. Stenographer positions paying $1,971 a year, or $164 a month (including overtime pay), are usually filled through promotion. Occasionally, however, persons who have had at least 1 year of appropriate experience are selected for initial appointment at $1,971.

Opportunities for advancement are good.

War service appointments extend generally for the duration of the war and not longer than 6 months thereafter.

The Federal workweek of 48 hours (six 8-hour days) includes 40 hours of regular time and 8 hours of required overtime.

Federal workers earn 26 days' vacation leave with pay each year. In addition, leave is granted in case of illness.

Federal appointments are made in conformance with War Manpower Commission policies and employment stabilization programs.

COMING? Here are some suggestions that will help you to get off to a good start.

After you have your civil-service appointment, arrange your schedule to arrive in Washington on a weekday, preferably in the morning. As soon as you arrive, report to the Travelers Aid desk where competent personnel will give you directions about what to do and where to go.

You will not receive your first Government check until you have worked about 2 weeks or more, so bring some money with you—from $35 to $50—to pay advance room rent and to purchase your meals. Rooms are available within 30 to 45 minutes' transportation time from the Government departments and agencies. Single rooms range in price from $20 to $35 a month; double rooms, from $20 to $30 a person. Rooms with board range from $45 to $55 a month. Properly balanced meals purchased in restaurants and cafeterias require a minimum expenditure of $1.00 a day.

If you need help or advice about financial matters, living quarters, recreation, or any other matter, you will find your agency counselor or personnel officer always willing to talk with you and offer suggestions.

Hurry—the Federal Government needs clerks, typists, and stenographers in Washington!

JOIN US IN WORKING FOR VICTORY

The First Year

A Study of Women's Participation in Federal Defense Activities

The First Year

A Study of Women's Participation in Federal Defense Activities

BY LUCILLE FOSTER McMILLIN

United States
Civil Service Commissioner

UNITED STATES GOVERNMENT PRINTING OFFICE : 1941

UNITED STATES CIVIL SERVICE COMMISSION

Form 3788—September 1941

Contents

Page

Preface 5

Résumé of the Work of Women in the Federal Service Prior to 1940 9

Picturesque Jobs of Women in Defense . . . 15

Where Many Women are Found in Defense Work 25

Some Women Occupying Important Defense Jobs 31

Training Opportunities for Women in Defense 35

The ABC of Federal defense jobs which women are occupying 38

Forward Together 39

ILLUSTRATIONS

". . . women's nimble fingers are used on the assembly line . . ." *Page* 16

". . . deft hands turn out the missiles of defense." *Page* 18

"In the sail loft they make . . . flags . . . for the ships at sea." *Page* 21

"They design work outfits for women employed in farm, home, and factory occupations . . ." *Page* 22

"Let us here pay tribute to the women in those less sensational . . . jobs of defense . . ." *Page* 24

". . . they joined the signal march to total preparedness . . ." *Page* 30

PREFACE

THE WOMEN of the United States are taking an increasingly important part in the national-defense program. Their duties have spread on the home front. As the manpower of the country continues to be drawn into the heavy industries of defense—as men are inducted into the land and sea forces of the Nation—there will be a growing need for their participation in those activities on the governmental and industrial fronts which are paramount in the national effort totally to arm and to defend our country, morally and physically.

The Federal Government has recognized the situation. In order to meet the task of securing additional qualified workers because of the withdrawal of men, the heads of its departments and independent establishments have been urged by the United States Civil Service Commission to explore the possibility of employing women for use in those occupations in which, heretofore, women have not been widely engaged. The Civil Service Commission has recommended that provision be made for training courses which will prepare women to qualify for and fill many of the positions essential to the prosecution of the national-defense program.

Great events have always carried women forward in their quest to find a secure place in the fields of labor. Nevertheless, their primary instinct has been, and still is, to cherish their greater interest in the protection of the home, the family, and the community.

Pioneer women found it necessary to join men in the protection of the home, the family, and the community against the dangers of new frontiers. They found it necessary to wield the axe which was to push back the wilderness; to assist in tilling

the cleared soil; to plant and to reap the harvest in order that the family might eat and the community prosper.

During the early years of the Republic, and through their age-old fight for the right to franchise, women have stood in the front ranks of those who have fostered great movements of community effort in extending education, culture, and better living conditions. They have always endorsed those modern attainments that make for a happier and more healthful life. It has been their duty to maintain the health and vigor of the family; to see that its members are properly fed, clothed, and kept warm; and to fashion and maintain the home, which is the strength of the Nation.

Wars have always brought new responsibilities to women, and in meeting them they have never failed. They served in the Civil War as nurses at the front and on hospital staffs; they prepared bandages for the wounded; they moulded bullets; they wept secretly and tilled the soil openly.

They extended their activities in the World War. Women became ambulance drivers, munition factory workers, ammunition inspectors, doctors, and members of home-defense committees, welfare associations, and recreational associations.

Wide avenues into employment fields at that time provided a way to many new jobs for women in the Federal service. When the United States entered the World War the demand for workers was unprecedented. It was necessary to fill more than a hundred thousand Federal positions almost immediately. Skilled workers were needed in Government establishments and in private industry to turn out arms and munitions. There were labor shortages in many fields. Prior to 1917, the majority of Government officials had insisted that only men be appointed to Government jobs. But the pressing need for labor broke down the bars of prejudice, and the story of the woman worker in the Federal Government began to be written.

Many surveys have been conducted into the part played by women in the World War. Many studies have been made of their employment in the industries and occupations of the country since that time. In those surveys and studies it has

been discovered that women can satisfactorily perform almost any type of work.

Again, a state of emergency has brought the ability of women to the forefront—and the opportunity for them to extend their activities further. Their participation in the national-defense program is following closely the pattern of their work in the World War. In addition, they will profit by the experience gained from their employment in the industries and professions of the country since the World War; and by the policy of the Government to encourage the employment of women in those jobs which cannot be satisfactorily filled by men because of the transfer of men into the military and naval forces of the country, and into the heavier duties of defense.

RÉSUMÉ OF THE WORK OF WOMEN IN THE FEDERAL SERVICE PRIOR TO 1940

ISOLATED cases of the employment of women in the Federal service occurred before the adoption of the Constitution.

It is believed that the first two women employees in the Federal Government were Mrs. Elizabeth Cresswell, postmaster at Charlestown, Md., under the Continental Congress in 1786–87, and Miss Mary K. Goddard, postmaster at Baltimore, Md., who had been holding that office for 14 years when the Constitution was signed.

The story of women's rise in governmental positions is one of slow but gradual progress. Factory-type positions in the Philadelphia Mint were opened to them at an early date. Later, positions became available to them in the arsenals of the country, in the Bureau of Engraving and Printing, and in the Government Printing Office. They were particularly recruited as printer's assistants, and even as late as 1910 such jobs formed the bulk of those to which they were appointed.

Clerical positions in the lower grades of the Federal service were available to women about 1850, and many years elapsed before they were admitted to the higher grades. Some lower-grade positions in professional and scientific fields were being held by women in 1897. It was the general rule, however, not to bestow position titles, responsibilities, or salaries on women comparable to those received by men; rather, according to a survey made in 1868 by Representative Thomas A. Jenckes, of Rhode Island, it was the questionable practice of those who stressed the employment of women in the Federal Government to place them in jobs because they

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could be paid lower salaries, thus effecting retrenchment in Government pay rolls. No one challenged the fairness of the procedure, but it is interesting to discover that 2 years later there was written into the statute books the provision that "Women may, in the discretion of the head of any department, be appointed to any of the clerkships therein authorized by law, upon the same requisites and conditions, and with the same compensation, as are prescribed for men." While the letter of the law was not always carried out, the establishment of low-salaried clerkships for women gradually ceased, although it was not entirely discontinued until the passage of the Classification Act in 1923, which provided that "In determining the rate of compensation which an employee shall receive the principle of equal compensation for equal work irrespective of sex shall be followed." This removed the bar to their right to equal pay at "the discretion of the head of any department," and was, of course, a positive step forward for women in the Federal service.

In 1854 there were three women clerk-copyists in the Patent Office. These positions were forerunners of the stenographic and typing jobs which now form the largest occupation for women in the Government. One of these jobs was filled by Clara Barton, who later founded the American Red Cross. She held this position during the stormy times of the rise of women in the Government, and throughout the Civil War, paying for a substitute while she served as nurse at the battle front.

A provision in the deficiency act passed by the Congress on March 14, 1864, marked the first statutory authority for the employment of women. The provision vested the heads of the various departments with authority to "employ females instead of any of the clerks hereinbefore designated, at an annual compensation not exceeding six hundred dollars per year, whenever, in their opinion, the same can be done consistently with the interests of the public service."

In June of the same year their worth rose to $720, and, again in 1866, to $900. This latter rate of pay remained the legal maximum for women employees for many years.

The number of women employees in the Government gradually increased. The year 1893 found the various departments of the Federal Government in Washington, D. C., using 3,770 women in Government jobs, as against 8,377 men. But the next year there was a temporary outbreak of antifeminist feeling, and the decrease in women's employment began. The depression periods of 1897, 1903, 1922, and 1928, and recurrent waves of antifeminist feeling caused similar decreases in the number of women employees, but, notwithstanding these reverses, women always won back their gains, not only in the number of positions, but in the responsibility and importance of the positions.

While it is true that from its earliest days the Civil Service Commission gave tests for both men and women, for reasons of economy and convenience it was the common policy to limit many examinations and their resulting registers to one sex—particularly men. This policy prevailed until 1919 when the Commission ruled that all examination announcements should contain the following statement:

> "Both men and women, if qualified, may enter this examination, but appointing officers have the legal right to specify the sex desired in requesting certification of eligibles."

But the final bar to sex discrimination in certification was removed when it was later ruled that "certification shall be made without regard to sex, unless sex is specified in the request."

The typewriter was in fairly common use in the departments of the Government when the Civil Service Commission was established in 1883. The Commission gave examinations for both men and women. Women seemed particularly proficient in the use of the machine. They received about 14 percent of the typist appointments in 1894; 21 percent in 1904; and about 25 percent in 1914. They received 77 percent of all appointments to the four grades of stenographer and typist positions in 1936. In 1940, however, the ratio dropped to 56 percent,

when they received 79 percent of the stenographic positions and 44 percent of the typist positions.

The employment of married women has been a bone of contention in the business world for decades.

There was early administrative discrimination against their employment in Government jobs, but it was not until the passage of the Economy Act of 1932 that married status became a factor which, with legal sanction, constituted a positive barrier to Government employment.

Section 213 of the Economy Act provided that in a reduction of force those individuals (in the class to be reduced) whose husbands or wives were also receiving Federal pay as employees, pensioners, enlisted men, or officers, should be dismissed first. The Section further provided that, in making appointments to the classified civil service, preference should be granted to those persons "other than married persons living with husband or wife, such husband or wife being in the service of the United States or the District of Columbia."

While Section 213 did not state that persons dismissed should be women, it resulted in the dismissal of three times as many women as men.

After a great deal of aggressive activity on the part of women's groups interested in the extension of the merit system, and upon the recommendation of the Civil Service Commission, the Congress repealed Section 213 in the final days of its 1937 session, thus removing the last discriminatory phase of the employment of women in the Federal Government.

In a reflective study of the employment of women in the Federal service one will find that their increase in number has been continuous and large. Generally, it has followed the upward trends of their use in the industries of the country, although it is certainly true that the heads of Government agencies have been much more reluctant to accept their employment, and to foster legislation beneficial to them, than have employers in industry and business.

Prior to the inception of the national-defense program early in 1940, women's employment status in the Federal service was

on a somewhat even keel with that of men. Except for a few positions, such as guard and policeman, there was nothing to prevent them from proceeding to occupy any job in the Government provided they had the necessary training and qualifications. Slowly they had raised the level of their participation in the activities of Government until they were occupying numerous positions of trust and responsibility. Their ranks included a member of the Cabinet, a Director of the Mint, Federal judges, special assistants to the Attorney General, members of boards and commissions, collectors of customs, ministers to foreign lands, an Assistant Treasurer of the United States, and wardens in State institutions.

Because of their educational background and experience women were called to the Federal service to fill many positions in professional and scientific fields, such as those of dietitian, social worker, dental hygienist, and nurse.

They were occupied in research work in the Bureau of Home Economics of the Department of Agriculture, and in the Children's Bureau and the Women's Bureau of the Department of Labor.

They were found in positions involving work in law, medicine, public administration, illustrating, editing and writing.

In almost every department and independent establishment of the Government, women were holding good jobs and were rendering outstanding service.

By far the greatest number of women were in the clerical, stenographic and typist positions—a particular source from which the most women proceed to bigger jobs, better pay, and a successful career in the Federal ranks.

Since the inception of the national-defense program the number of women employees in the Federal service has continuously increased and their labor has steadily advanced into the defense activities of the governmental front. It is those jobs occupied by women on this particular front which are of first interest to this discussion.

PICTURESQUE JOBS OF WOMEN IN DEFENSE

A REVIEW of women's participation in Federal defense activities covering the first year of the national-defense program quickens the imagination and forecasts those spheres of preparedness wherein their greatest labor will occur.

From those spheres we now hear the ominous hum of arsenals, and the drone of motors in flight. In the review we already see the results of women's effort in the laboratories of science, in the workshops of the designer, in the defense industries of the Government, in the offices of administrators, and in the armed camps of the Nation. In it may be found a story which bristles with colorful action and keen endeavor—a story whose plot extends far over the embattled fronts of democracy.

While the number of women presently engaged in work in defense activities is small in comparison with the estimated number which ultimately will find employment therein, they are found in jobs which are picturesque and unique in character, and which include tasks not usually performed by women.

From many sources reports are received of their continuous placement on the "production line" in establishments of the War Department—the arsenals, the ordnance depots, the proving grounds, the munition factories, the Quartermaster depots, the air fields, the Engineer Department at large, and the Medical Corps; in the navy yards and air stations of the Navy Department; in the armament industries vital to defense, and in the multitudinous activities of those other departments and independent establishments of the Government which have been designated as defense agencies.



NEW YORK DAILY NEWS PHOTO

". . . women's nimble fingers are used on the assembly line . . . "

In the Picatinny Arsenal at Dover, N. J., more than 1,000 women are working as classified laborers, and more than 400 are employed there as explosives operators in the operation of machines and presses incident to the loading of munitions.

At the Edgewood, Md., Arsenal women's nimble fingers are used on the assembly line in the manufacture of gas masks. Every 24 hours more than 2,000 women work in 3 shifts 6 days a week, handling highly confidential processes, operating heavy-duty, high-speed electric sewing machines, using pliers, soldering irons, and presses, and performing skilled handwork in the assembly of incomplete parts of gas masks. Final inspection of the finished product is made by women. Patience and care are indispensable as a single leak or defective piece might be disastrous in some future battle! Women from this arsenal are sent to private companies engaged in the manufacture and assembly of gas-mask parts to act as instructors of the employees of the private firms. At the arsenal, women toxicologists and pharmacologists perform research work in testing the efficacy of chemical warfare materials. They test the value of defensive gases developed to counteract the known chemical warfare gases of other countries. Before the national emergency, Edgewood Arsenal had 181 women employees, as compared with 2,513 on April 1, 1941.

At the Frankford Arsenal, Philadelphia, women hold the majority of positions in the fuze shop. Girls with a high-school education, but having little or no experience in the work, are accepted for training in this important job in one of the country's largest arsenals. Here, on the production line, women assist in the manufacture, in the inspection, in the testing, and in the intricate subassembly of parts for mechanical time fuzes used in artillery shells. Here, women are machine tool operators and precision optical workers, performing duties which correspond with those required in the finest type of watch making. Tiny, delicate parts, cumbersome to the heavy hands of men, are handled easily and efficiently by the quick fingers of women. Here, women are munition inspectors. Here, their quality of patience, their temperament, their dexterity,



O E M DEFENSE PHOTO

". . . deft hands turn out the missiles of defense."

their devotion to duty, are vitally essential as their deft hands turn out the missiles of defense.

At the Philadelphia Quartermaster Depot the majority of positions in the clothing factory are filled by women. The factory manufactures uniforms and clothing equipment for the soldiers. It is the only factory operated by the War Department for this purpose. Many women occupy supervisory positions there.

In the Marine Corps Supply Depot at Philadelphia—the only clothing factory depot operated by the Marine Corps—women manufacture marine uniforms.

At the Middletown Air Depot, Middletown, Pa., women are engaged in various positions in aircraft work.

At the Holabird Quartermaster Depot in Baltimore a woman does mechanical and free-hand illustrating for Army texts and manuals; another woman handles work in connection with the purchase of automotive spare parts.

At Savannah, Ga., a draftswoman is employed in the Office of the District Engineer; the Quartermaster at Elgin Field, Fla., employs a woman storekeeper.

In the Chemical Warfare Service at Cincinnati, Ohio, 250 women have been appointed to jobs as "arsenal learners," gas-mask inspectors, process inspectors, and laboratory aides in connection with the manufacture of gas masks. In the Engineer Department at large women occupy the position of engineering aide. One woman is a junior architect. In the Ordnance Department at large women are serving as under inspectors of ordnance.

At the Fairfield Air Depot, Patterson Field, Fairfield, Ohio, women apply radio-active luminous material to various dials used on aircraft instruments.

In the St. Louis, Mo., Ordnance District Office women work as inspectors of ammunition parts and small-arms ammunition, and in the recording of intricate drawings and specifications of ordnance material items.

At the San Antonio, Tex., Arsenal women are used in cleaning and grinding lenses in the optical section.

At the Quartermaster Depot in New Orleans women are employed as examiners of woven and knitted articles.

At the San Antonio Air Depot women employees make heavy fleece-lined suits for pilots.

The laboratories of the National Advisory Committee for Aeronautics at Moffett Field, Calif., employ women with majors in mathematics, physics or chemistry to make computations on wind tunnel tests.

In the Brooklyn Navy Yard more than 500 women are employed in the Naval Clothing Depot as operators of power sewing machines used in the making of uniforms for sailors. In the sail loft they make and mend flags and pennants for the ships at sea.

In Boston a woman is serving as an immigration inspector.

At the Philadelphia Navy Yard women operators are employed in the Naval Aircraft Factory in the manufacture of parachutes and related equipment used by the Navy.

The Inspector of Naval Aircraft at San Diego, Calif., employs women as inspectors of engineering material.

At the Mare Island Navy Yard, San Francisco, women are employed in drafting, as matrons in the Immigration and Naturalization Service, and as interpreters. Here, too, they make flags and pennants for naval vessels of all kinds.

At the Sacramento Air Depot women are employed as leather and canvas workers in the unique duty of drop-testing, inspecting, mending, and repairing parachutes.

In the military camps of the country, in the hospitals, in defense agencies, in the field activities of the Government, women are employed as nurses, hospital attendants, hostesses, librarians, receptionists, mess attendants, laundry operatives, surgeon's assistants, dental hygienists, dietitians, inspectors of textiles, elevator operators, cooks, welfare workers, and technicians of all kinds.

Women cryptanalysts are rendering outstanding service to the Government in coding and decoding secret messages.

In other Government agencies women are studying ways of improving bread for the military forces. They are developing



O E M DEFENSE PHOTO

"In the sail loft they make . . . flags . . . for the ships at sea."



U. S. BUREAU OF HOME ECONOMICS PHOTO

"They design work outfits for women employed in farm, home, and factory occupations . . . "

new recipes with the aim of making bread more nutritious. They are conducting experiments in the preservation of foodstuffs, such as potatoes, eggs, milk, and other staples. They are engaged in nutrition studies which are a part of a national nutrition program. They serve as inspectors of supplies sent to England. They are employed in the testing of textiles to determine resistance to mildew and other deteriorating elements, for the betterment of military clothing and equipment. They design work outfits for women employed in farm, home, and factory occupations—outfits stripped of hazardous ties and frills, and provided with comfort and safety.

In aviation there is a woman air-marking specialist and a private flying specialist; and there are many women who are ground-crew instructors and pilots.

Women are occupying positions such as director of personnel, liaison officer, food consultant, director of nutrition, associate administrator, executive assistant, nurse consultant, chief of public information, and chief of press relations.

Let us here pay tribute to the women in those less sensational but nevertheless necessary and important jobs of defense—those thousands of stenographers, typists, and clerks, who are displaying a devotion to duty equal to that of women engaged in work on the more dramatic side of preparedness.

Thus, at the end of the first year of the emergency, we are able to see something of women's participation in the national-defense program on the governmental front. However long the narrative may continue, it is certain that he who writes the final chapter will find in the complete story a record of courage, fortitude, and heroism displayed by women workers in defense who engaged themselves in uncommon duties which they performed faithfully and well.



U. S. CIVIL SERVICE COMMISSION PHOTOS

"Let us here pay tribute to the women in those less sensational . . . jobs of defense . . . "

WHERE MANY WOMEN ARE FOUND IN DEFENSE WORK

IN MAY 1940 the President of the United States declared a limited national emergency because of the chaotic state of world affairs. The military, civilian, and industrial power of the country was summoned to implement a program of preparedness intended to strengthen our armaments, coordinate our internal system of Government, and translate our ability to defend ourselves and our democratic institutions into a never-failing reality.

On June 30, 1940, the Federal rolls revealed that civil employment in the executive branch of the United States Government had reached a total of 1,002,820 individuals. Of this number, 816,610 were men and 186,210 were women.

The United States Civil Service Commission was confronted with the task of recruiting a capable emergency personnel, and then referring that personnel to those defense agencies which were fast gearing themselves to carry out the major projects of the national-defense program.

The Civil Service Commission quickly adjusted its recruiting procedures and regulations to the emergency, and, as a result, during the next 6 months, 116,821 placements increased the Federal roll to a total of 1,119,641 individuals. Of this new total, 892,264 were men and 227,377 were women.

Recruiting gained momentum. By June 30, 1941, 238,509 additional placements brought Federal civil employment to a grand total of 1,358,150 employees—1,091,743 men and 266,407 women.

The greatest employment activity occurred in the War and Navy Departments, where women increased in number by 51,320 and 8,652, respectively, during the 12-month period, making a total of more than 84,000 women employees in

these two major defense agencies alone, of which over 67,000 were occupying jobs in the field service (outside the District of Columbia).

On June 30, 1940, there were 2,844 women civil employees in the Ordnance Department at large outside the District of Columbia. By the end of June 1941 their number had increased to a total of nearly 10,000 women civil employees, of whom more than 6,000, or approximately two-thirds, were employed in Government-operated arsenals of the nation, as follows:

Picatinny Arsenal, Dover, N. J.	2,349
Watervliet Arsenal, Watervliet, N. Y.	185
Watertown Arsenal, Watertown, Mass.	251
Frankford Arsenal, Philadelphia, Pa.	3,223
Springfield Armory, Springfield, Mass.	279
Rock Island Arsenal, Rock Island, Ill.	511
Total women employees	6,798

On June 30, 1941, 10,792 women were employed in the Selective Service System; 2,670 women were on the rolls of The Panama Canal, the majority of them being employed in the Canal Zone; 1,942 women were employed in the Office for Emergency Management—more than one-half the total number of employees in the entire Office. In the Federal Security Agency, 12,904 women were employed, many of them on tasks concerned with the defense program. In the Civil Service Commission, 4,361 women were employed.

Statistics on women employees in the Federal service have been shown for those agencies primarily concerned with defense activities. Other agencies of the Government which employ large numbers of women workers are the Treasury Department (23,034 women employees), the Post Office Department (24,962), the Department of Agriculture (25,087), the Federal Loan Agency (8,181), the Federal Works Agency (16,263), the Maritime Commission (570), and the Veterans' Administration (14,622). Some of these agencies, too, are

concerned with certain phases of the defense program. The extent to which women are employed in other departments and independent establishments of the Government is shown in the accompanying table (pp. 28 and 29).

For the enlightenment of those who may question the authenticity of the positive advancement of women into the Federal service in times of emergency, let us see what was happening to female employment in the Government during those stirring days of 1917 and 1918 which have not yet receded from memory.

On November 11, 1918, approximately 917,760 civilians were employed in the executive branch of the Federal Government. While it is not known just how many of these individuals were women, it has been established that in the 2 years of the war period women received nearly 75 percent of the appointments at Washington. In the field branches of the Federal service, the proportion was about one woman to two men.

The startling effect of the great influx of women into the Federal service compelled the Chief Examiner of the United States Civil Service Commission to state in the Commission's 1918 annual report:

> The most notable change in Government personnel brought about by the war is in the employment of women. They are everywhere, and offices which formerly insisted on men employees are now acceding to the Commission's recommendation that their examinations be open to women applicants.

Many women remained in the Federal service after the close of the World War, and, today, some of these same women are occupying positions of responsibility. However, with the return of peace, the ranks of Government workers were gradually reduced, the number of women occupying positions decreased accordingly (82,180 women employees on June 30, 1925), and their effect, in force at least, was not to be felt again until the years of the depression (88,856 on June 30, 1930), the period of the ascendancy of the New Deal (120,777 on June 30, 1935), and, finally, at the beginning of the national-defense

CIVIL EMPLOYMENT IN THE EXECUTIVE BRANCH OF THE UNITED STATES GOVERNMENT BY SEX

June 1941

Department or independent establishment	Entire service			In the District of Columbia			Outside the District of Columbia		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Office of the President:									
Executive staff	1,173	671	502	899	491	408	274	180	94
Maintenance force	98	75	23	98	75	23	.....	.....	.....
Executive departments:									
State	7,009	4,685	2,324	1,784	712	1,072	5,225	3,973	1,252
Treasury	65,573	42,539	23,034	20,690	8,950	11,740	44,883	33,589	11,294
War	320,291	250,954	69,337	23,176	11,836	11,340	297,115	239,118	57,997
Justice	21,401	16,481	4,920	6,095	3,681	2,414	15,306	12,800	2,506
Post Office [1]	301,215	276,253	24,962	4,723	3,782	941	296,492	272,471	24,021
Navy	222,862	207,971	14,891	25,527	20,484	5,043	197,335	187,487	9,848
Interior	47,980	39,670	8,310	4,501	2,804	1,697	43,479	36,866	6,613
Agriculture [2]	91,146	66,059	25,087	13,209	6,667	6,542	77,937	59,392	18,545
Commerce	23,896	16,186	7,710	13,616	6,775	6,841	10,280	9,411	869
Labor	4,579	2,335	2,244	2,416	930	1,486	2,163	1,405	758
Independent establishments:									
Alley Dwelling Authority	156	102	54	156	102	54	.....	.....	.....
American Battle Monuments Commission	95	89	6	20	17	3	75	72	3
Bituminous Coal Commission	51	30	21	51	30	21	.....	.....	.....
Board of Governors, Federal Reserve System	470	267	203	448	245	203	22	22	.....
Board of Tax Appeals	135	62	73	135	62	73	.....	.....	.....
Civil Service Commission	6,709	2,348	4,361	4,292	1,485	2,807	2,417	863	1,554
Employees' Compensation Commission	526	242	284	458	215	243	68	27	41
Federal Communications Commission	1,414	966	448	776	400	376	638	566	72
Federal Deposit Insurance Corporation	2,357	1,386	971	514	253	261	1,843	1,133	710
Federal Loan Agency	18,653	10,472	8,181	5,056	2,669	2,387	13,597	7,803	5,794

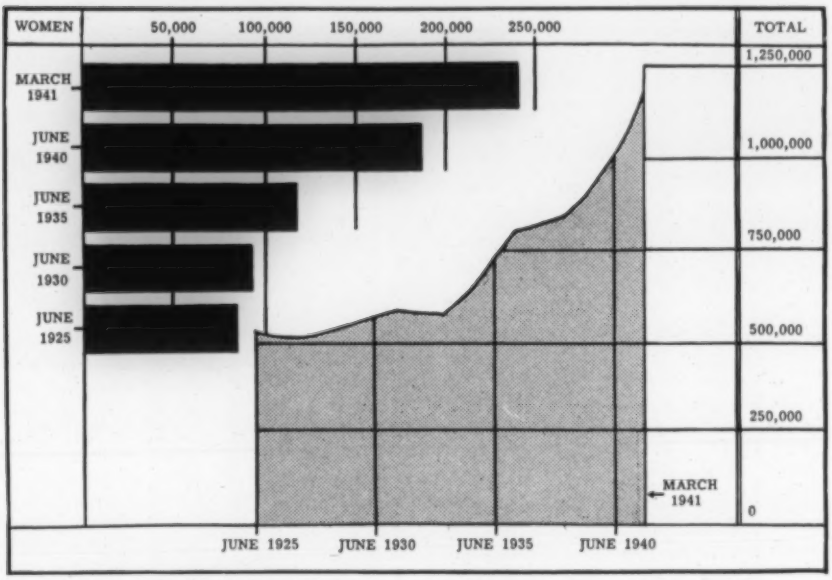
Federal Power Commission	814	598	216	561	390	171	253	208	45
Federal Security Agency	31, 872	18, 968	12, 904	9, 774	4, 978	4, 796	22, 098	13, 990	8, 108
Federal Trade Commission	685	436	249	593	371	222	92	65	27
Federal Works Agency	39, 020	22, 757	16, 263	13, 011	8, 906	4, 105	26, 009	13, 851	12, 158
General Accounting Office	5, 461	3, 439	2, 022	5, 461	3, 439	2, 022	.....	.....	.....
Government Printing Office	7, 119	5, 712	1, 407	7, 119	5, 712	1, 407	.....	.....	.....
Interstate Commerce Commission	2, 799	1, 955	844	2, 003	1, 350	653	796	605	191
Maritime Commission	2, 157	1, 587	570	1, 261	774	487	896	813	83
Maritime Labor Board	28	13	15	25	10	15	3	3	.....
Mount Rushmore National Memorial Commission	33	32	1	2	1	1	31	31	.....
National Advisory Committee for Aeronautics	1, 245	1, 072	173	90	48	42	1, 155	1, 024	131
National Archives	422	263	159	410	255	155	12	8	4
National Capital Park and Planning Commission	30	25	5	30	25	5	.....	.....	.....
National Labor Relations Board	882	493	389	420	243	177	462	250	212
National Mediation Board	73	38	35	.....	.....	.....	73	38	35
New York World's Fair Commission	3	2	1	.....	.....	.....	3	2	1
Office for Emergency Management	3, 691	1, 749	1, 942	3, 457	1, 608	1, 849	234	141	93
Panama Canal	36, 425	33, 755	2, 670	184	164	20	36, 241	33, 591	2, 650
Railroad Retirement Board	2, 213	1, 242	971	1, 594	805	789	619	437	182
Securities and Exchange Commission	1, 678	1, 106	572	1, 304	841	463	374	265	109
Selective Service System	16, 593	5, 801	10, 792	389	102	287	16, 204	5, 699	10, 505
Smithsonian Institution	869	671	198	869	671	198	.....	.....	.....
Special Counsel for the United States	3	1	2	.....	.....	.....	3	1	2
Tariff Commission	292	177	115	283	169	114	9	8	1
Tennessee Valley Authority	23, 006	21, 682	1, 324	10	4	6	22, 996	21, 678	1, 318
Veterans' Administration	42, 948	28, 326	14, 622	6, 417	2, 602	3, 815	36, 531	25, 724	10, 807
Total	1, 358, 150	1, 091, 743	266, 407	183, 907	106, 133	77, 774	1, 174, 243	985, 610	188, 633

[1] Exclusive of 611 temporary employees in substitute grades in the District of Columbia and 13,355 outside the District of Columbia.
[2] Includes employees hired under special letters of authorization.

program when they joined the signal march to total preparedness (186,210 on June 30, 1940).

Thus, in retrospect, do we catch a glimpse of the infiltration of women into the Government in times of national stress.

WOMEN CIVIL EMPLOYEES AND TOTAL CIVIL EMPLOYEES IN THE FEDERAL EXECUTIVE DEPARTMENTS AND INDEPENDENT ESTABLISHMENTS



U. S. CIVIL SERVICE COMMISSION CHART

" . . . they joined the signal march to total preparedness . . . "

SOME WOMEN OCCUPYING IMPORTANT DEFENSE JOBS

SINCE the first days of the national-defense program women have been occupied in important defense activities. A review of the educational background and wide experience of these women would present an interesting and colorful story in itself. Hundreds of examples might be cited. The few cases which follow illustrate the nature of the duties being performed by some of the daughters of Uncle Sam who occupy key positions in the Nation's effort to prepare:

MARY ANDERSON, Chief of the Women's Bureau, Department of Labor. Charged with formulating standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. This mandate applies equally to the defense industries.

MARY I. BARBER, Food Consultant to the Secretary of War. Assigned to the Subsistence Branch of the Quartermaster Corps. Advises Army on how to serve four million meals a day. Lent to the Government by the Kellogg Company of Battle Creek, Mich., where she is director of home economics. Also serves on the Advisory Board, Press Relations Department, Quartermaster Corps.

MARY McLEOD BETHUNE, Director, Office of Negro Affairs, National Youth Administration. Responsible for projects created for the purpose of training Negro youths for integration into defense activities.

KATHERINE C. BLACKBURN, Assistant Director, Office of Government Reports, Executive Office of the President. Assists in the direction of the Division of Press Intelligence, which provides Government officials with a clipping service and concise reports on current comment concerning defense and public affairs; the Division of Field Operations, which acts as a clearing house for information on Federal agencies; and the U. S. Information Service, which answers thousands of queries annually from the general public.

PAULINE BAKER CHAMBERS, Nurse Consultant, Office of Production Management. Charged with the responsibility of placement of women workers coming to Washington in proper living quarters; advises on health, recreation, and money matters. Makes it possible for incoming women employees to arrange quarters in advance.

HARRIETT ELLIOTT, Associate Administrator, Office of Price Administration, Office for Emergency Management. Responsible for the protection of the consumer and consumer needs.

MAY THOMPSON EVANS, Special Assistant to the Director, Division of State and Local Cooperation, Office for Emergency Management. Advises with Governors, defense council officials, civic and professional organizations, and heads of established volunteer service bureaus on integrating the activities of women into State and local defense councils. Establishes procedures through which civilian volunteers may contribute their services to the defense program.[1]

KATHERINE A. FREDERIC, Acting Chief, Reports and Studies, Division of State and Local Cooperation, Office for Emergency Management. Responsible for the preparation of reports, publications, special studies, articles, and other material issued by the Division in official bulletins. Gathers, and makes available, information on the operation of State and local defense councils; also information on defense developments which concern State and local government.[1]

BESS GOODYKOONTZ, Assistant Commissioner of Education, Office of Education, Federal Security Agency. In charge of a series of 27 publications on education and defense which show what the schools of the country can do and are doing in relation to the national-defense program.

ALICE HAGER, Chief of Public Information, Civil Aeronautics Board. Responsible for dissemination of public information on air activities, including information for the press. Issues safety bulletins. Interprets, for the public, analyses on air accidents with the object of showing what flyers should or should not do in order to avoid accidents.

OVETA CULP HOBBY, Expert Consultant to the Secretary of War. The Army's first woman editor. Directs the section of the Bureau of Public Relations of the War Department which translates life in the army in terms of interest to mothers, wives, sisters, and sweethearts.

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[1] The functions of the Division of State and Local Cooperation have been transferred to the Office of Civilian Defense.

LYTLE HULL (the former Mrs. Vincent Astor), Vice Chairman, Defense Savings Committee, Treasury Department, State of New York. In charge of all women's activities to promote the sale of Defense Bonds and Stamps throughout the State.

FLORENCE S. KERR, Assistant Commissioner, Work Projects Administration, Federal Works Agency. Directs community-service projects pertaining to the defense program. Conducts occupational training projects through which thousands of workers are prepared for employment in defense industries.

HENRIETTA S. KLOTZ, Assistant to the Secretary of the Treasury. As private secretary to the Secretary of the Treasury, handles a large number of confidential matters relating to phases of the defense program.

THELMA McKELVEY, Special Assistant, Labor Supply Branch, Labor Division, Office of Production Management. Develops programs for the training and increased employment of women in defense industries, particularly in those occupations where there are labor shortages, and in those industries which have not traditionally employed women.

HELEN MITCHELL, Director of Nutrition, Office of the Coordinator of Health, Welfare and Related Defense Activities. In charge of Nation-wide educational program to encourage better use of food on hand, and to raise the morale of the country by increasing physical fitness of citizens.

BLANCHE NOYES, Air Marking Specialist, Civil Aeronautics Administration, Department of Commerce. Pilot. In charge of air-marking program which aids air navigation through the proper marking of localities, particularly in those parts of the country where Air Corps flying schools are engaged in the training of pilots.

RUTH O'BRIEN, Chief, Division of Textiles and Clothing, Bureau of Home Economics, Department of Agriculture. With governmental ban on silk imports, cotton stockings designed under her direction assume new importance in the national-defense program. Provides War and Navy Departments with methods of mildew-proofing cotton fabrics used in tents, tarpaulins and sandbags.

PATRICIA O'MALLEY, Chief, Press Relations, Civil Aeronautics Administration, Department of Commerce. In charge of preparation and distribution of information to the press and radio, and the dissemination of material for feature articles, on aviation.

PHOEBE A. OMLIE, Senior Private Flying Specialist, Civil Aeronautics Administration, Department of Commerce. Has completed 11,000-

mile journey over country arranging for immediate expansion of classes for airport "ground servicement" to forestall possible shortage of efficient ground men to meet increased demand which will be brought about by expanded aviation programs.

GRACE A. PARKHURST, Assistant to the Chief, Purchase Division, Procurement Division, Treasury Department. Engaged in buying defense materials in connection with the activities under the Lease-Lend Act.

CLARICE SCOTT, Clothing Specialist, Bureau of Home Economics, Department of Agriculture. Designs work outfits for women employed in farm, home, and factory occupations—outfits stripped of hazardous ties and frills, and provided with comfort and safety.

RUTH H. SHIPLEY, Chief, Passport Division, Department of State. Considers and approves passports for persons going to areas where new defense bases are being constructed. Facilitates the travel of all persons concerned with Lease-Lend Act aid to the British Isles and China.

LOUISE STANLEY, Chief, Bureau of Home Economics, Department of Agriculture. Directs Nation-wide studies on what farm, city, and village families are eating in order to cooperate with other defense agencies in the national drive toward better nutrition. Member committee established to advise British in the selection of food under the Lease-Lend Act.

HAZEL STIEBELING, Food Economist, Bureau of Home Economics, Department of Agriculture. Answers the question "Are we well fed?" by analyzing diets of typical families; plans how to spend food money in order to get the best returns in nutrition.

RUTH VAN DEMAN, Chief, Information Division, Bureau of Home Economics, Department of Agriculture. Interprets the Bureau's research by means of bulletin, radio, picture, and graph as an aid in applying the findings of science to the maintenance or improvement of morale and ways of living.

MARY N. WINSLOW, Advisor for Civic Projects, Office of Coordinator of Inter-American Affairs, Office for Emergency Management. Works with women's organizations in connection with Latin-American activities. United States representative on the Inter-American Commission of Women.

TRAINING OPPORTUNITIES FOR WOMEN IN DEFENSE

CERTAIN industries were designated by the Government as "defense industries" at the time of the declaration of the limited national emergency in 1940. These industries included: Aircraft (manufacturing, maintenance, repair); machine tools; shipbuilding (manufacturing, maintenance, repair); automotive (manufacturing, maintenance, repair); electrical; forging; boiler and heavy steel plate; foundry; light manufacturing; sheet-metal; woodworking; chemicals; ammunition; ordnance (light and heavy).

For the present emergency the Government has found it necessary to make every effort to draw from the reservoirs of peace-time labor, eligible workers with specific skills to enter those industries designated as vital to defense. In many cases there has been a woeful shortage of such eligibles. The policy has prevailed, therefore, of forecasting the need for skilled labor, and training in advance the workers necessary to fill the gaps when they occur in the ranks of (1) the defense industries, and (2) the defense establishments of the Federal Government.

Women who are especially interested in securing Federal defense employment should appraise their individual abilities and should then acquire the necessary training and prepare to make their services available to the Government in the event that positions for which they are qualified are vacated by men, or are created as the preparedness program grows.

Because of their temperament, their patience, their nimble fingers, and the adaptability of their hands to the finest work, women are best qualified to perform the duties of those jobs in defense which require the elements of dexterity, care and speed in their accomplishment. These jobs include: Aircraft workers;

machine operators; assemblers and bench workers; inspectors; welders; sheet-metal workers (fuselage and wing construction of airplanes); coil winders; optical grinders and polishers; power sewing machine operators; tool-room attendants.

Adequate preliminary training in various skills has been provided by the Government for the mobilization, training, and placement of workers in defense industries. The United States Employment Service, the United States Civil Service Commission, the Federal Committee on Apprenticeship, the United States Office of Education, the National Youth Administration and the Civilian Conservation Corps coordinate their training programs in this important activity.

From many sections of the country vocational schools and institutions report the enrollment of women in training courses for automobile mechanics, airplane mechanics, airplane-parts inspectors, draftsmen, engineers, blueprint readers, industrial chemists, machine-shop workers, and radio operators.

Schools, colleges, and universities are offering defense training courses in first aid, diet and canteen work, map making, emergency rationing, home economics, engineering, aerial photography, research, and social work.

Organizations, such as the American Red Cross and the American Library Association, are conducting defense training courses in subjects pertinent to their activities.

Industries engaged in the manufacture, maintenance, and repair of aircraft, automotive parts, light and heavy ordnance, machine tools, and many other industries, conduct within industry training courses in those techniques common to their operations.

The insistent demand for skilled workers in Government arsenals, navy yards, and similar establishments caused the United States Civil Service Commission to adopt the policy of holding "continuously open" examinations for the skilled trades. Applicants who have the necessary experience and training are immediately assigned to duty; on-the-job training courses are offered which provide employees ample opportunity to learn higher-grade work. An open competitive examina-

tion was recently announced in the vicinity of one of the navy yards for the purpose of securing women trainees to fill the position of minor inspector of naval ordnance material.

Within the last 2 years many women have obtained appointment in the Federal civil service through the Junior Professional Assistant examination held by the Civil Service Commission each year. Among the optional subjects which have been included in the examination are economics, engineering, pharmacy, statistics, textile technology, bacteriology, meteorology, writing and editing, and chemistry.

The most popular examinations in which women compete are those given for the purpose of securing nurses, clerks, stenographers, and typists.

The best way to find out what defense jobs are available, and what the qualifications are, is to contact the United States Civil Service representative in the nearest first- or second-class post office, or visit the nearest office of the State Employment Service.

Many women already have gone from these training courses to vital defense industries. Many others have competed in civil-service examinations and have qualified for jobs in Government-operated defense establishments.

During the first year of the national-defense program the employment horizon widened, revealing a variety of new jobs occupied by women in the Federal service. From the valuable reserve of skilled labor created by the coordinated training agencies of the Government, the in-service training courses of industries, and the training activities of the schools and colleges of the country, thousands of skilled women workers will yet emerge and enter new jobs in Federal defense establishments. Thus, in the months to come, women will further expand the scope of their employment over the entire field of defense labor.

A guide to the variety of Government positions which women are filling in defense activities at the present time may be found in the table on the following page.

THE ABC OF FEDERAL DEFENSE JOBS WHICH WOMEN ARE OCCUPYING

Administrator (associate).
Air marking specialist.
Aircraft fabric worker.
Airplane painter.
Architect.
Arsenal learner.
Astronomer.

Buyer of material.

Cartographic engineer.
Clerk.
Cryptanalyst.
Cryptologist.
Customs collector.

Dental hygienist.
Designer of military insignia.
Dietitian.
Draftswoman.
Dress research specialist.
Economist.
Elevator operator.
Engineer.
Explosives operator.

Field specialist on food.
Flying specialist.
Fuze worker.

Gas mask inspector.
Ground service training director.

Home economist.
Hospital attendant.

Illustrator.
Immigration inspector.
Information specialist.
Inspector of—
- Engineering material.
- Munitions.
- Ordnance.
- Textiles.

Interpreter.
Laboratory technician.
Laborer.
Laundry helper.
Leather and canvas goods worker.
Liaison officer.
Librarian.

Machine operator.
Manufacturer of army clothing.
Matron.
Mess attendant.
Messenger.
Meteorologist (observer).

Nurse.
Nutrition specialist.

Parachute worker.
Personnel director.
Pharmacologist.
Pilot.
Powder bag maker.
Precision lens and plate maker.
Press relations officer.
Purchasing officer.

Receptionist.

Section chief.
Sewing machine operator.
Social worker.
Stenographer.
Storekeeper.
Supervisor.
Surgeon's assistant.

Telephone operator.
Toxicologist.
Translator.
Typist.

Writer.

FORWARD TOGETHER

THE WIDE participation of women in the national defense program necessitates no new philosophy in the field of labor. Rather, it exemplifies anew the wisdom of the old philosophy—equal compensation for equal work irrespective of sex—freshly clothed with strength and vitality.

The extended activity of women in the present emergency will clearly prove the need to apply their labor *at all times* in order that the products of their minds, their ingenuity and their talents may be readily utilized in those periods when the nation faces *any* emergency.

The successful performance of women in those jobs which are rare to their sex will reveal that men and women have moved forward together on this occasion, and together they have proved that women's work *in all occupations* is not a menace to the zeal of man, but, in fact, a means whereby he has gone on to greater accomplishments.

The work of women in the great cooperative effort of the Nation to arm will win for them new laurels in the field of labor, and it will be said of them, "They contributed largely to the national security."

WAR DEPARTMENT
Bureau of Public Relations
PRESS BRANCH
Tel. - RE 6700
Brs. 3425 and 3438

September 3, 1942

I M M E D I A T E R E L E A S E

WAR DEPARTMENT TO EXTEND EMPLOYMENT OF WOMEN

It is the policy of the War Department to use women employees in all capacities for which they are qualified or may become so by training, the War Department announced today. As far as practicable, women will be employed in preference to men of war service age or capabilities. However, this policy will not limit the employment of qualified men who are ineligible for military service by reason of age or physical disability.

War Department employing and training officers have been directed to "fully utilize, immediately and effectively, the largest and potentially the finest single source of labor available today--the vast reserve of woman power." The ability, the spirit, and the determination which women war workers have already shown can leave no doubt of the part they are playing and will play to win this war, instructions to the employing officers stated.

Already, about 300,000 women are employed in War Department activities, and as many more can be absorbed. They work in arsenals and depots, producing and assembling guns, planes, tanks and ammunition. They are running 15-ton cranes, operating complex milling and boring machines, driving trucks, riveting airplane wings and filling hundreds of other mechanical jobs, as well as doing clerical and supervisory work.

Through the employment of women in these posts, thousands of men have been freed to serve in the armed forces or in other vital war production lines for which women are physically unfitted.

Since June 1, 1942, when about three per cent of the skilled workers employed in War Department activities were women, the percentage has been raised to almost 10 per cent, officials said. Almost 35 per cent of the unskilled workers are women, with indications that this number will be greatly increased as soon as possible.

Generally, women workers must meet the usual civil service requirements as to age, physical condition, mechanical aptitude and intelligence quotient. Age limits for most jobs are 18 to 50 years, although there is a maximum of 45 years on a few occupations, requiring unusual activity.

MORE

In regard to physical qualifications, Department officials explained that varying standards must be met, the requirements differing according to state and federal laws governing employment of women.

There is no bar to married women, beyond the legal requirements which must be met by all.

Women without previous mechanical experience receive a training period of from nine to 12 weeks, depending upon the occupation, at the place of employment. They are paid during this period, and, in general, may expect a higher civil service rating and increase in pay at the end of their first year of employment.

All civil service ratings now, officials stressed, are for the duration of the war. They are not permanent ratings.

A study of women in war production jobs has definitely established that they possess required aptitudes and traits which make them successful in occupations heretofore regarded as men's work. They have proved adept in operations requiring finger dexterity and attention to detail, aptitudes essential in most of the skilled and semi-skilled occupations in War Department production.

It has been learned, for instance, that women can fill numerous jobs in Ordnance plants turning out machine guns, rifles, pistols and ammunition; in Chemical Warfare plants working on gas masks and other assembly jobs; in Signal Corps plants on radio and other communication equipment; in the Transportation Services, General Depots and Air Service Commands.

One of the largest employers of women is the Quartermaster Corps, where they work on almost everything from hand-embroidered battle flags to 10-ton motor trucks, including inspection of food, clothing and other articles of military equipment. The Quartermaster Corps operates the largest single clothing manufacturing establishment in the United States, yet must farm out to private firms 95 per cent of its uniform contracts. Inspectors are needed to check on production of these contractors.

The field of inspection work will require thousands of women as minor, or junior inspectors in the near future, officials said. Candidates for these posts must meet a higher educational standard than in the mechanic learner class in which most women begin. In some cases, inspectors must have college training in physics and chemistry.

Applications for positions in War Department activities must be made at the place of employment. Virtually all of the major activities have civil service boards empowered to grant civil service ratings and place the successful applicant in training for her share of the war effort immediately.

END

DISTRIBUTION: A, B, C, D, except Do, J, K, La, M, N, WAAC.

GOVERNMENT PERSONNEL WORK FOR WOMEN

Government personnel work offers exceptionally interesting and challenging opportunities to women who are interested in people and in human relationships and who, in addition, have the requisite training. Some of the duties performed by women engaged in Government personnel work: interviewing and testing employees; analyzing jobs; providing adequate training and supervision for employees; maintaining satisfactory employer-employee relations; removing causes of undue personnel turnover; adjusting unsatisfactory work situations.

Except for the Junior Professional Assistant examination, there are no assembled (written) examinations for the types of personnel positions outlined below, nor are formal announcements issued for these jobs. Applicants' qualifications are judged from a review of their sworn statements as to their education, training and experience. The procedure for obtaining information and application forms is that given on page 67, paragraph 2, of MADEMOISELLE'S current issue, in the "Government Directive #1."

Women with full-time, paid experience in personnel work in an industrial or commercial firm, or in a Government agency (national, state or local), can qualify as <u>personnel officers and assistants.</u> The lowest grade ($2600) requires 6 years of experience, for which undergraduate and graduate college training may be substituted year for year up to 5 years. Higher grades require more experience. Those who do not meet these requirements are urgently requested <u>not</u> to apply; receipt of applications from unqualified persons increases the Commission's workload unnecessarily and thus impedes war work. Experience limited to routine interviewing, advisory or vocational service, clerical work or supervision of clerical work, is not qualifying.

In order to increase productivity and reduce personnel turnover, some Government agencies have established employee relations programs. Through such programs, concerned with improving working conditions and rendering special services to supervisors and employees, employees receive more individual attention. Positions as <u>employee counsellors</u> or <u>employee service officers</u> exist in connection with many of these programs. These positions have no specific experience requirements, and are filled from lists established for other personnel or personnel-connected positions. Although these positions are few, they represent some of the newer, and most interesting, activities in Government personnel work.

For girls just out of college, an especially good entree to the field of Government personnel work is the Junior Professional Assistant examination. This examination, held in the spring of each year (a new one is scheduled to be announced soon) and between-springs when the needs of the service demand, is open to all college graduates and seniors. Recent JPA examinations have stressed, among other needs, the need for persons with college training in personnel management, Government administration, business administration, and related subjects. Jobs in position-classification work, for example, are often filled from the registers resulting from this examination. (Government positions are classified according to the "equal pay for equal work" principle, which is an integral part of the merit system. Position classification is a process which functions whenever a new job is created or new duties are added to an old one.) The JPA examination is of a broad, non-specialized nature; no experience is required. The usual entrance salary is $2000 a year.

A few positions as Labor-relations and mediation officers are open to women with experience as labor-relations directors in commercial or industrial establishments. Such positions require an impartial outlook and involve the investigation of labor controversies, the conducting of labor conferences, and so forth. For the lowest grade ($2600) at least 4 years of experience (for which college education may be substituted year for year up to 3 years) is required. Higher grades require additional experience.

Experience in personnel supervision--in planning, organizing, and coordinating office activities--is qualifying for the job of office manager. College education may be substituted up to 3 years for the 4 years of experience required for the $2600 grade. Again, more experience brings higher salaries, higher grades.

Still another personnel job for which women can qualify is that of administrative assistant. Applicants need 1 year of junior executive experience, including assistance in planning office policy and programs, to qualify for the $2600 grade. Commensurately greater experience is required for the higher grades.

Finally, personnel offices, like other offices, require a staff of stenographers, typists, clerks, etc. It is quite possible for an alert girl on duty in a personnel office, either through original appointment or through transfer, to work up to her objective--a personnel job.

Although none of these personnel fields is by itself impressively large, in the aggregate, hundreds of positions exist for women in Government personnel work.

#

FUTURE RELEASE

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F U T U R E R E L E A S E

FOR RELEASE 1:30 P.M., TUESDAY, MARCH 30, 1943

INCREASING USE OF WOMEN WORKERS MADE BY ARMY SERVICE FORCES

Women now constitute approximately 70 percent of all civilian employees of the Army Service Forces in Washington and 30 percent of all Army Service Forces civilian personnel in the field, according to Mr. James P. Mitchell, Director of the Industrial Personnel Division, Army Service Forces. The Army Service Forces has a total employment at present of approximately 985,000 civilians, of whom about 935,000 are located outside Washington and slightly less than 50,000 in the headquarters area. Army Service Forces workers represent 85 percent of the total War Department civilian personnel.

The increasing role women are playing in war work under the jurisdiction of the Army Service Forces was described by Mr. Mitchell in an address Tuesday noon, March 30, on the subject of "War Management and War Manpower," before the Sales Executive Club of New York, at a luncheon meeting at the Roosevelt Hotel, New York City.

Mr. Mitchell stated that there is a great reserve of unused manpower "in industry's own backyard," waiting to be developed through more intensive training of men and women already serving, through improved personnel relations and other means. He cited the effectiveness of the campaign conducted by the Corps of Engineers in reducing the accident frequency rate on the emergency construction program.

Discussing the increasing use of women by the Army Service Forces for many kinds of manual labor, Mr. Mitchell said:

MORE

"No portion of the manpower program is regarded as of more importance by the War Department than the substitution of women in place of men eligible for the draft. Whenever the employment of a woman releases a male employee for military duty, it is apparent that a double advantage to the war effort has been achieved; a man has been made available for the fighting forces and the continuance of the job he quits has been assured.

"The Army Service Forces is already mapping out a program to increase the employment of women wherever possible, always, however, for the purpose of replacing, not displacing, a man. No male employee obviously should be supplanted by a woman worker unless he is needed or wanted in some other activity, whether in the armed forces or in war industry.

"At the present time, approximately 70 percent of the civilian employees of the Army Service Forces in Washington are women. While this figure is gratifying to us, it is perhaps not surprising. Office and headquarters duties are predominantly administrative and clerical and many of them always have been and always will be performed by women. I believe it is highly significant, however, that women comprise more than 30 percent of Army Service Forces workers outside Washington and that the percentage is being steadily increased.

"The work of the Ordnance Department, for instance, is far from being primarily clerical in nature, yet approximately 35 percent of the field workers in that agency are women. The same is true of other supply services, where more and more women are gradually taking their places at work requiring skilled hands as well as alert minds. Outside of Washington, the Quartermaster Corps is employing more than 33 percent women; Signal Corps is employing approximately 40 percent; Chemical Warfare Service is employing 42 percent and Medical Corps is employing almost 50 percent.

"These women are driving pick-up trucks and repairing automobiles at depots; grinding lenses, operating lathes and testing heavy artillery; drawing

MORE

maps, running machines and acting as guards on military property; in fact, performing a large variety of work formerly regarded as the exclusive role of men and for which in many instances, women were for some reason or other considered unfitted or incapable. Total war has totally exploded some of these rusty industrial myths."

END

DISTRIBUTION: Aa, Af, B, Da, J, N, P, Speeches.
3-30-43
12-15 P.M.

(CP Memo. 78) RFn

WAR DEPARTMENT
Headquarters, Army Service Forces
Washington 25, D.C.

4 August 1943.

ASF CIVILIAN PERSONNEL MEMORANDUM No. 78

Subject: Requests for exceptions to established War Department workweek.

1. Establishment of a weekly tour of duty for employees of less or more than 48 hours, as provided in paragraph 3, War Department Orders H, 1943, must be approved by the Commanding General, Army Service Forces.

2. Requests for such approval will be forwarded through channels to the Industrial Personnel Division, this headquarters. The following items of information will be submitted with the request in each case:

a. Pay rates or grades of the personnel involved and the number of employees in each grade.
b. Schedules of hours of work proposed.
c. Brief description of duties performed by subject personnel.
d. Justification of exception for which approval is requested.

3. The justification for requesting approval of the exception should give such complete information about the situation that further correspondence and explanations will be unnecessary. This information will include, where available and pertinent, descriptions of prevailing hours of work in the locality; local transportation and housing conditions; wage rates in the area; the hiring situation in the locality--how many qualified persons are available for the jobs in question and the length of time it will take to fill the jobs.

4. Requests will be forwarded through the headquarters of the service command or technical service having jurisdiction. Each will be reviewed for completeness by the appropriate headquarters and will not be submitted unless it has the approval of such headquarters.

(SPX 230.44 (29 Jul 43)SPGCC-MB-E)

By command of Lieutenant General SOMERVELL:

J. A. ULIO,
Major General,
Adjutant General.

24-43584

ADVANCE RELEASE: For Tuesday Afternoon Papers, June 29, 1943.
ORR - WMC 2037

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

PM-4405

Pointing out that military need has expanded the Government's cartographic activities to offer a broad field for war service by women, Chairman Paul V. McNutt of the War Manpower Commission today called their attention to the Commission's free training courses which will equip them for this work.

Map drawing, aerial photo-mapping, and military map making are included in the positions now open to women, Chairman McNutt said. The WMC Bureau of Training reports, that women have proved adept at cartography. Courses which can speedily qualify those with aptitude for the work, are available in many colleges and universities under WMC's Engineering, Science, Management War Training program.

High school graduates can be trained in about 12 weeks for topographic drafting positions. Women with three years of college, and those with two years in certain specialized college courses of study, may rapidly qualify through training in photogrammetry for work interpreting and preparing maps from aerial photographs. Four-year college graduates with degrees, who will take the appropriate ESMWT courses, should be able to meet the requirements for the military map-making positions now open. Women with more than the required preliminary education, by taking specialized ESMWT courses can prepare for advanced positions in this field.

The U. S. Civil Service Commission is actively recruiting women for Government jobs. Positions in map-making are open in the Coast and Geodetic Survey; the Army Map Service; the Office of Strategic Services; and the Hydrographic Section of the Coast Guard, Navy Department. The majority are in Washington, D.C., but some are in field offices.

Chairman McNutt suggests that persons wanting further information about these and other college-grade war training courses consult local colleges and universities, or write to the Director, ESMWT, U. S. Office of Education, Washington, D. C.

X-17285

Appointment
I thought you might like to see this

April 2, 1943

Mr. S. Silber
Man Power Section
Office of the Quartermaster General
War Department
Washington, District of Columbia

Dear Mr. Silber:

Under separate cover Miss Robinson of our Division of Public Information has sent you the names and addresses of our regional representatives. These technicians are stationed in specific areas to assist various branches of the Government and private employers in bringing about the most effective use of women workers.

Most of our attention to date has been given to the aircraft, the ordnance and the shipbuilding industries. However, we are equally concerned with the use of women in Quartermaster Depots and factories. Our staff is at your service.

The regions covered by our field representatives are extensive so that the representative is usually working in plants some distance from her official city. I believe time would be saved if representatives of your office would contact the Washington Office with regard to your needs as we are informed daily of the location and demands upon our field workers.

Sincerely,

Bertha M. Nienburg,
Assistant Director

BMN:LW

Miss Robinson

RSN

(CP Memo. 20)

WAR DEPARTMENT
Headquarters, Services of Supply
Washington

February 7, 1943.

SOS CIVILIAN PERSONNEL MEMORANDUM No. 20

Subject: Reports on hours of labor and manpower utilization.

1. A memorandum from the President to the Secretary of War, and War Department Orders U, December 26, 1942, subject, " Hours of work and overtime compensation for civilian employees," clearly direct that an official tour of duty be established on a 48-hour basis except where unusual circumstances, objectively evidenced, prevent such an arrangement. In those cases where a 48-hour week cannot be regularly established for particular organizations or groups, a report will be forwarded through channels to the Industrial Personnel Division, Headquarters, Services of Supply, stating the nature of the work performed, length of the workweek prescribed, the number of employees affected, and detailed reasons for the exception. Reports of such exceptions will be transmitted to the Director of the Bureau of the Budget in compliance with the President's directive.

2. Orders U states that when three 8-hour shifts are in operation and an overlapping of shifts is not feasible, lunch time will be included within the daily tour of duty. The reports described in paragraph 1 will not be required in instances where such procedure is adopted.

3. The foregoing is for the information and guidance of all officers and employees engaged in the administration of civilian personnel and contains the substance of information received from the Office of the Secretary of War, January 13, 1943.

(SPX 230.44 (2-3-43)SPGCC-MP-FH)

By command of Major General STYER:

J. A. ULIO,
Major General,
Adjutant General.

24-8756

Equal Pay

(Adm. Memo. W-6)

WAR DEPARTMENT
Washington

January 31, 1943.

ADMINISTRATIVE MEMORANDUM No. W-6

Subject: Employee relations policy for War Department employees.

It is the policy of the War Department to establish and maintain a total working environment in which the whole series of the experiences of the individual in his daily job will be most conducive to the stimulation of his best endeavor. Toward that end certain basic principles on which the War Department's practices have always been founded are here set forth in order to assure the continuation of mutually satisfactory relationships. It must be recognized that the War Department is subject to statutes and regulations which govern the administration of civilian employment and that its policies therefore must be formulated in accordance therewith.

1. The War Department will make no discrimination in favor of or against an employee because of race, sex, color, religion, creed, national origin, or political or other affiliation (except as may be required by law).

2. All appointments will be made in accordance with Civil Service laws, which provide for the selection of applicants on the basis of merit and approved qualifications.

3. Following initial placement, if employees are found to be unsuited for the duties to which assigned, an effort will be made to find other work for which they are better suited. It is the intention of the Department to review the skills of employees to the end that maximum utilization of such skills be had. In this connection planned programs of transfer will be established in order to utilize employees' abilities to the maximum, and to allow consideration for the immediate needs of their personal adjustments.

4. As vacancies occur, it is the intent of the Department to promote those with suitable qualifications from within the same organizational structure where possible. In order that employees may achieve their maximum growth and advancement, training programs are established to give employees the opportunity to prepare themselves for positions of more responsibility.

5. It is the intention of the Department to insure, so far as possible, compensation consistent with the principle of equal pay for equal work through the utilization of the Classification Act of 1923, as amended, wage boards, and other wage fixing authorities.

6. It is the intention of the Department to provide safe, pleasant, and healthful working conditions conducive to maximum efficiency and consistent with emergency needs and conditions of the war. Comprehensive safety programs will be instituted to insure full protection to employees on the job. It is likewise the intention of the Department to provide such medical and health education services as are needed to assist employees to maintain optimum health. Medical attention as a result of accidents arising out of and in the course of employment will be provided and compensation paid as specified by law.

7. The Department will encourage the establishment and expansion of counseling services that are designed to implement the employee relations policies herein described by assisting both supervisors and individual employees in effecting satisfactory adjustment on the job. Counseling services are also available to employees to assist them in matters of personal welfare, recreational, social, and educational needs. Through close coordination with other personnel services within the Department and with various community organizations, counselors are able to serve the interests of employees both at their work and away from their work.

8. The Department recognizes the need for coordination of the thinking of all levels of administration so that policies and policy interpretation may be correct and as uniform as possible throughout the organization and to provide a continuous flow of information up and down the supervisory line leading to the Secretary of War. It is recognized that joint conferences between the various administrative staffs are valuable in order to provide this coordinated thinking, in order to improve the efficiency, working conditions, and well-being of employees, and to insure the successful prosecution of the aim of the War Department. To this end such conferences for the free interchange of ideas on matters of mutual interest will be encouraged. Such conferences will be conducted as an integral and important part of the supervisory training program for the Department, the machinery for which is now being developed.

9. The employees of the War Department have an obligation to support and defend the Constitution, to carry out the duties of their positions to the best of their ability, to conduct themselves during and outside working hours in a manner which will reflect credit on the Department, and to manifest a cooperative spirit in their relations with their fellow employees and supervisors.

10. It is the intent that employees be treated fairly in all respects, and those who feel that they are not so treated are privileged to discuss freely and settle their problems with their supervisors. Failing satisfactory conclusions through such means, grievance machinery should be utilized. Procedures for such appeals will be established.

11. Employees have the right to join or refrain from joining any group or union which has for its purpose the bettering of conditions of employees with relation to their employment, without interference, coercion, restraint, or fears of discrimination or reprisal because of such membership or nonmembership. This right may be exercised individually or collectively through committees of employees selected by the employees themselves. In addition to this right of employees, it has been the long established practice of the Department to give consideration to petitions or presentations not only when received from employees direct, but also when received from representatives of groups of which the employees are members; also to allow canvassing of employees at the station of employment to join employee organizations when the canvassing is conducted outside of working hours, subject to proper maintenance of work schedules and administrative feasibility. Wherever feasible, official leave will be granted to union representatives for the purpose of attending conferences with administrative officials. The standing of employees who are members of such unions will not be affected so long as their loyalty to the Government service, together with the ability to perform their duties, is assured.

12. All policies defining the position and attitude of the War Department on personnel administration will be made known in order that all employees may be fully informed as regards their rights and obligations.

(AG 230 (1-31-43)WD-MP-FH)

By order of the Secretary of War:

/s/ John W. Martyn

JOHN W. MARTYN,
Administrative Assistant.

OFFICIAL:
J. A. ULIO,
Major General,
The Adjutant General.

WAR DEPARTMENT
Bureau of Public Relations
PRESS BRANCH
Tel. - RE 6700
Brs. 3425 and 3770

January 11, 1943.

I M M E D I A T E R E L E A S E

WAR DEPARTMENT EXPANDS MACHINE RECORDS TRAINING

An opportunity for greater civilian participation in the war effort has been made available to women and draft exempt men today through the expansion of the War Department's machine records training program.

Record keeping is an important task of the War Department. The expanded training program gives girls and men who respond to it a chance to learn new skills vital to the successful prosecution of the war. The program will give intensive, basic training to new, untrained employees as well as advanced training to current operators whose experience, with supplementary training, qualifies them for promotion.

Military operations have intensified the need for accurate, swift record keeping. Guns and ammunition must be manufactured, transported to the war areas and issued to the armed forces. Clothing, food, supplies, medicines and other materiel must be gathered from thousands of places in the United States and sent to the battle areas. Successful handling of this important task depends largely on up-to-the-minute knowledge of details made available by the machine records program and it is in connection with this important task that the War Department plans to train new workers and give advanced training to others who have proven deserving of promotion.

Electrical tabulating machines, located in various machine units throughout the country, are used in preparing these important reports. The need for skilled operators is increasing constantly and it is expected that 5,000 trained office machine operators will be needed in 1943.

The machine records training program is being handled by the War Department's Services of Supply and will be under the direct supervision of the Civilian Personnel Division, Services of Supply. Accepted applicants will be given an opportunity to become qualified keypunch, tabulating and machine records' operators

Each of the nine Service Commands in the continental United States has been requested to hire persons each week during 1943 for machine records work. Employees so engaged will have the opportunity after training of transfer to Washington.

END

DISTRIBUTION: A,B,Da,Db,Dc,Dd,K,Mb,Md,N,P. 2:30 PM

EVENING SUN
Baltimore, Md., Nov. 5, 1942.

Returned to NRL

WAR RADIO JOBS OPEN TO GIRLS IN 8 FIELDS

WASHINGTON, Nov. 5 - Women are in demand for radio jobs in eight different branches of the war services, a survey by George W. Bailey, chairman of the radio section, Office of Scientific Research and Development, has revealed. The jobs, open to women who know enough code and theory to pass amateur radio operator's examination are:

1. As junior aircraft communicators by the Civil Aeronautics Administration. The CAA offers a six-month course of instruction for this work. Pay during the trainin course is $1,440 a year, with an advance at the end of training to $1,620. Applications are handled by civil service.

In Army Air Forces

2. In the Army Air Forces, as instructors. Student instructors can make $1,620 and experienced radio women can get $2,000 at four schools--Scott Field, Illinois; Chi Chicago; Sioux Falls, S.D. and Madison, Wisc. Civil Service also handles applications for this branch.

3. The Signal Corps general development laboratory, at Fort Monmouth, N.J. which is taking women from 16 to 50 years old. A six-month training course is offered, during which students are paid $120 a month, with employment at the end of the course at $135. Applications are handled by Lieut. John T. Freeman, General Development Laboratory, Signal Corps, Fort Monmouth, Red Bank, N.J.

4. The Navy radio section, Bureau of Ships, on application to Lieut. L.B. Wheeler, Room 2N 21, Navy Dept.

5. The Naval ordnance laboratory under Ralph Cautley.

6. The radiation laboratory, Massachusetts Institute of Technology, Cambridge, Mass. under Dr. F. W. Loomis.

7. The Naval research laboratory, Anacostia, D.C. under Fred A. Pierce.

8. The WAVES and WAACs.

Must Know Code

Although women desiring radio positions must first learn the radio code, jobs as code operators just do not exist for women, Mr. Bailey said. The armed services uses teletypes entirely for most radio communication. Code is tapped out only in the front lines, where women are not sent.

It is necessary to learn code, however, in order to obtain an amateur license, and this license is a stepping stone to most radio jobs.

To prepare for the license examination, you can go to a commercial or Govt. sponsored radio school, take a correspondence course froma commercial school or study at home.

GIRLS FROM HERE TO MAP ROAD TO TOKYO

Source: Bulletin (IR), Philadelphia, Pa., June 3, 1942

Behind closed doors in the buildings of the U. S. Geological Survey in Washington, D. C., a number of girls from this section will be poring over war zone aerial photographs within a few months, transmitting them into military maps for the War Department.

These photographs are brought back by U. S. Army and Navy airmen who have flown over enemy-held territory in all parts of the world.

To what use will the War Department put these military maps? Ah, that is something for Adolf, Tojo and Benito to worry about.

Men are doing such map-making at present but since the work defers them from the Army draft only six months, it has been decided to give young women a chance.

"Women in many ways are superior to men in photogrammetry anyway," declares Dr. Edward H. Watson, professor of geology at Bryn Mawr College, where a special seven-weeks' course will begin later this month to prepare girls for the work.

Dr. Watson will have charge of the studies and will be assisted by Professors Dorothy Wyckoff and Marguerite Lehr.

Women More Patient

"A woman has special qualifications because she is patient, can attend to detail and perform close work with instruments which ordinarily would irritate a man," he explains.

The geologist points out that such maps are of great importance.to the Army, although he doesn't know whether the women who complete the course, and who will be practically certain of getting jobs immediately,will work on charts of Europe, the Orient or elsewhere.

"Good maps of the East Indies, and also Burma, would probably be needed by the Allies," he points out.

"It is quite possible that these young ladies will be among the first to peruse interesting maps brought back by our bombers. Of course, the War Department is not saying specifically what type of map-making they will do.

"It is my understanding, however, that much of the work will be secret, carried on in well-guarded surroundings. It is the sort of work many an intelligent young woman would be interested in."

Dr. Watson points out that a girl with some background in the subject of geology should fit into the course admirably. But that is not essential.

Any young woman who has a high school or college diploma and sufficient training in math and science may apply for the course. There is no charge. Three hundred are needed, nationally.

Starting pay is $1,440 a year but college girls would receive higher positions, starting at $1,620. The local course will be open to about 40 students. Already 11 Bryn Mawr college girls, graduates of the June class, have indicated they plan to take it and have begun familiarizing themselves with the work.

"It's patriotic, offers fair pay and seems like interesting work," as one of the girls explained.

The course is part of a project of the Federal Security Administration's Office of Education. Similar summer courses are being offered at colleges throughout the country, but Dr. Watson believes Bryn Mawr is the only institution to teach the subject to women.

Students will learn, or brush up on, special trigonometry and geometry principles, delve into simple methods of dra ting and surveying and then explore the subject of map-making.

They Learn a Lot

They will study topography, landscape interpretation and contouring, actually making maps in the Bryn Mawr area. Finally, the processes of photogrammetry -- transferring aerial photographs into maps -- are explained to them.

This science recently underwent revolutionary development, Dr. Watson explains. It used to be that the aerial photographer had to fly at a certain definite height and point his camera straight down if worthwhile maps were to be made from his shots.

But now the photographer, perhaps during the heat of actual air combat, may take angle photographs of an area and his pictures can be assembled to make a perfect contour map showing hills, valleys, streams, roads, cities, the placement of troops and guns, etc.

Who knows, perhaps some young lady of this area shortly will be working over maps brought back by Brigadier General Jimmy Doolittle and his gallant armada from Tokyo!

For release
May 20, 1942.

(WO 42-71)

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

IMPORTANT WAR JOBS FOR YOUNG WOMEN AS SIGNAL CORPS INSPECTORS

Here's a chance for high-school girl graduates to earn while they learn and when trained as junior engineering aids to get an important job in the Army's Signal Corps. Hundreds of women are needed as Uncle Sam's inspectors in private plants making radio, telephone, and other equipment for Army use.

The offer is open to young women who have a mathematical and scientific bent and education. These women are being registered and selected by the Third District of the U. S. Civil Service Commission in Philadelphia, according to information given the Women's Bureau of the United States Department of Labor, which is concerned with the effective use of women in the war effort.

A girl who gets the opportunity to serve her country in the Signal Corps, the eyes and ears of the fighting force, is paid during her 6 to 9 months' training period a salary of $120 a month, and in starting work as an inspector she receives $135 a month.

After she gets into active service hers is a vital role—most likely at present to be that of an inspector of radios designed for the armed forces. She makes dozens of difficult intricate tests and reads dozens of dials.

Should she pass by a defective piece of equipment, the outcome of a military campaign might be affected. Far from the scene of battle she works vigilantly in a manufacturing plant, seated in a wire cage (insulated from surrounding electrical disturbances) before an immense and intricate testing board of dials and controls; of voltmeters, testing voltage output, resistance, power output, and all-around performance. She measures in amperes, ohms, volts, mhos, farads, henrys—many of the readings being taken in milliunits.

Or she might be trained for work in the inspection service in the manufacture of telephone equipment, wire, or cable. The course for any one group of students is pointed to one special field.

(Over)

If she makes good she has opportunities for advancement at higher salaries. She may become a senior inspector with some administrative and organizational duties, and possibly go on to a supervisory position of considerable importance.

To be accepted for training at the Philadelphia ~~Air~~ Signal Corps Depot a young woman must have the equivalent of a regular 4-year high-school course with six successfully completed units in chemistry, physics, mathematics, or drafting--or a total of six units in any combination of these courses. An applicant is also eligible if she has acquired the necessary qualifications at night school or through part-time work at colleges or technical schools. The age limits for trainees are from 20½ to 35 years.

The training period comprises 6 to 9 months of pre-service training (about half this time in a vocational school and the rest at some institute of college grade, such as Drexel Institute), and includes field trips to radio factories, broadcasting stations, plants making telephone equipment, etc.

After an orientation course in the depot for approximately two weeks to receive instruction in the functions of the depot, the type of equipment used, and inspection procedures, the trainee is dispatched to a contractor's plant for duty.

In the course of her inspection work she will probably travel to a number of plants in the eastern States or Middle-West.

The Women's Bureau was requested by the Philadelphia Signal Corps Depot to help bring to the attention of young women in different parts of the country the need for junior engineering aids.

Miss Lodge

Capt. Hale
radio technicians
repair - maintenance
Miss Rosenthal
Col Fred S Miller's secretary
Rm 2019 War Dept 7430
Temp A 2d & T SW.

Mr. Daly
Civilian Personnel
Bldg A. 2 & T SW.
Car - 7th St bank - bus to Bizzards Pt. (War College)
1st floor middle entrance

DO NOT TAKE

For release,
March 29, 1942.

U. S. DEPARTMENT OF LABOR
WOMEN'S BUREAU
Washington

OFFICE WORKERS IN THE WAR PROGRAM

This is a story of America's army of women office workers--the typewriter brigades, the shorthand battalions, the girls on the filing line, and the women who operate bookkeeping machines.

The Women's Bureau, U. S. Department of Labor, under the direction of Miss Mary Anderson, has made a study of the demands for office workers, the problems of shortages in some sections, closely allied social problems and general conditions of work.

When Uncle Sam's pay-roll vouchers began to multiply last year they added the names of more women office workers than any other private or public field of work.

In commenting on this increase, Miss Anderson said, "The Government's need for women office workers to help expedite the vast administrative tasks incident to war is revealed by employment statistics and certain steps taken to attract office personnel."

Look at the record. In the War Department at the last counting there were 70,000 women on its pay-roll. Of these more than 11,000 were in Washington, an increase of 8,000 within the year. The Navy has doubled its feminine force, and calls for more. Women are in demand in other Federal agencies. Since there is no breakdown of figures showing the number of office workers, here are clues for a good estimate:

In the fiscal year 1941 the Government took on 40,000 stenographers anddd typists. Ninety-five percent of the stenographers in the country are women, and the percentage of women office machine operators, other than typists, is slightly less. Examinations are kept open continually for stenographers, typists, tabulating machine and alphabetic card punch operators. Women are paid the same entrance rate as men in the same job classification. The entrance rate for clerk-typists is usually $1,440. Many stenographers start at $1,620, others at $1,440.

On the industrial front a corresponding need for office personnel exists. There is a growing ratio of office workers to production workers. For every 1,000 women wage earners there are 802 women in offices in printing and publishing, 263 in iron and steel mills, and about 139 in electrical machinery, according to the 1939 Census of Manufactures. In that year nearly 235,000 women were reported as clerical employees in the offices of manufacturing plants.

Women are now taking on combination clerical and production duties in some war plants. About 4 percent of the office supervisors in manufacturing are women. In the industrial centers half the demands for office workers are said to come from industrial concerns.

To get a general picture of the demands for office workers, agents of the Women's Bureau before the outbreak of war made surveys in Los Angeles, Houston, Philadelphia, Kansas City, and Richmond, Va. Machine operators other than typists were found to be the greatest need. In three of the cities studied the women in offices averaged less than $100 a month.

Job studies show that the office worker without a skill is at a disadvantage. Opportunities for employment and advancement are improved for the woman who learns to operate a business machine.

The Bureau reports some office workers are losing jobs as war activity causes shortages of material and equipment. On the other hand some workers are leaving front offices for better pay on production lines.

Where shortages of office personnel are acute and cannot be met locally it is recommended that the technique of taking work to the workers be used for office as it is for industrial employees.

Many women workers, both office and plant personnel, today are faced with problems arising from the construction of war plants near rural communities. Some single women workers are away from home for the first time. They live in or near towns with normally small populations geared to handle hundreds rather than thousands. Such overcrowding presents housing, eating, and recreation problems.

A handbook recommending standards to be established in meeting these problems, for use of Government officials and other welfare experts as well as women's clubs and volunteer groups, will soon be released by the Women's Bureau.

Surveys in defense areas by agents of the Bureau are being conducted with an eye to assisting workers, plant officials, and communities in a satisfactory adjustment of new conditions.

Even now efforts are being made to anticipate post-war employment trends. Judging from experience after the last war, the Women's Bureau looks to a small but steady increase in demands for office workers with a possible shift as to localities.

Sept. 3 - '43

Miss ~~Bradway~~ ~~Manning~~ ~~Ayrault~~ ~~Pidgeon~~ ~~Stitt~~ ~~Cannon~~ ~~Robinson~~ ~~Lydstone~~ ~~Brook~~ Bell

49 P. C. Rise In Auto Repair Workers Urged

CS Monitor
aug 21 - 1943

DETROIT (AP)—The National Automobile Dealers' Association asserts in its current monthly bulletin that "an immediate increase of 49 per cent in repair shop personnel is necessary if America's essential automobile transportation is to be kept in working condition."

Reporting on a survey just completed, the N. A. D. A. bulletin says:

"The average automobile dealer had less than half as many mechanics on his pay roll July 1, 1943, as on Jan. 1, 1942. Although the peak of demands by the armed forces and by war industry seems to have passed, there still is a heavy drain on the supply of auto repair shop workers which employers have been unable to offset even though a considerable number of women have been employed."

Women Workers

Of the effort to replace mechanics with women workers, the bulletin says:

"In general women have not proved to be good replacements for experienced mechanics. Of the 483 women employed in the repair shops of the reporting dealers, only 31.3 per cent were listed as satisfactory, while 57.1 per cent were rated unsatisfactory and 10.1 were designated as fair."

The conclusions were based upon reports from 1,325 dealers in approximately 50 of the nation's leading cities. These reports showed that there were 12 mechanics per dealer, Jan. 1, 1942; 7 per dealer Jan. 1, 1943, and 6 per dealer July 1, 1943.

Paris Press H.

DEFENSE INDUSTRIES: AVIATION

Woman Heads Aviation Branch Training Men for Ground Crews

(In New York Times, March 9, 1941)

Washington. -- The magnetic promise of aviation has led Mrs. Phoebe Omlie through the hectic barnstorming days of the old open cockpit jennys and a great deal of constructive pioneering to an appointment unique among women in the government.

In her new post as senior private flying specialist for the Civil Aeronautics Authority, she is busy these days visiting more than 200 airports throughout the country, selecting those in which classes will be established, with the cooperation of the Office of Education and the WPA, in a defense training program designed to prepare 5,000 men to form ground crews for a rapidly increasing number of civic and government airports . . .

She is convinced of the place women will find in aviation's future, but does not feel the answer lies in their demanding recognition.

Seeking always to minimize what she herself is doing, she suggests the need for workers in the manufacturing departments of that industry as the most valuable call women could now be answering.

"Especially in the covering jobs," she said, "the task of securing the cloth coverings on the various parts of a plane is highly specialized and especially suitable to women. They can actually do a more lasting job of stitching and this is very important. . . . . (picture).

GOVERNMENT

L

Girls and young women between 18 and 25 are finding increasing employment in both government service and private industry because of a scarcity of boys and young men. Within a few days more than 100 girls were placed on such duty by Civil Service Commission at a salary of $1080 per year. More are expected to be hired.

Girls become messengers in Navy's Offices, Six replace boys gone with draft or into higher jobs. (Times Herald Washington, D C. 9/16/41

Springfield, Mass. UNION (Morn)
May 20, 1941 ARMORY ATTRACTS GIRL TYPISTS

YOUNG WOMEN ARE WELL PAID FOR WORK AT GOVERNMENT PLANT

While the U. S. Armory now is approaching the 6100 mark in employment, skilled metal and woodworkers still being hired and there is no indication yet as to when the capacity payroll will be reached. At the first of the year, it had been expected that the peak would be 6000. For some of the jobs at the Armory, there are long lists of civil service eligibles still available but toolmakers, diemakers and similar skilled men continue to be in large demand.

Although not so much attention has been given to that phase of Armory employment, many young women have been given jobs in the office there during the last year as there is more paper work to be handled in a government plant than in a private one.

Many of the several hundred women employes, who have joined the Armory office force within the last year, are very well paid in the light of pay scales in similar work in private industry and business. Girls working as typists are making $26.50 a week and in not a few instances have gone into those jobs from private offices where they were getting $14 to $16 a week.

The higher wage paid by the government is known to be attracting considerable attention among office workers in outside employment and many are seeking to get into Federal payrolls as a result. The pay rate at the Armory is no different from that for women office help in any other government service. Stenographers making as little as $14.50 a week in a private office have gone to work at Westover Field for $26.50 a week also.

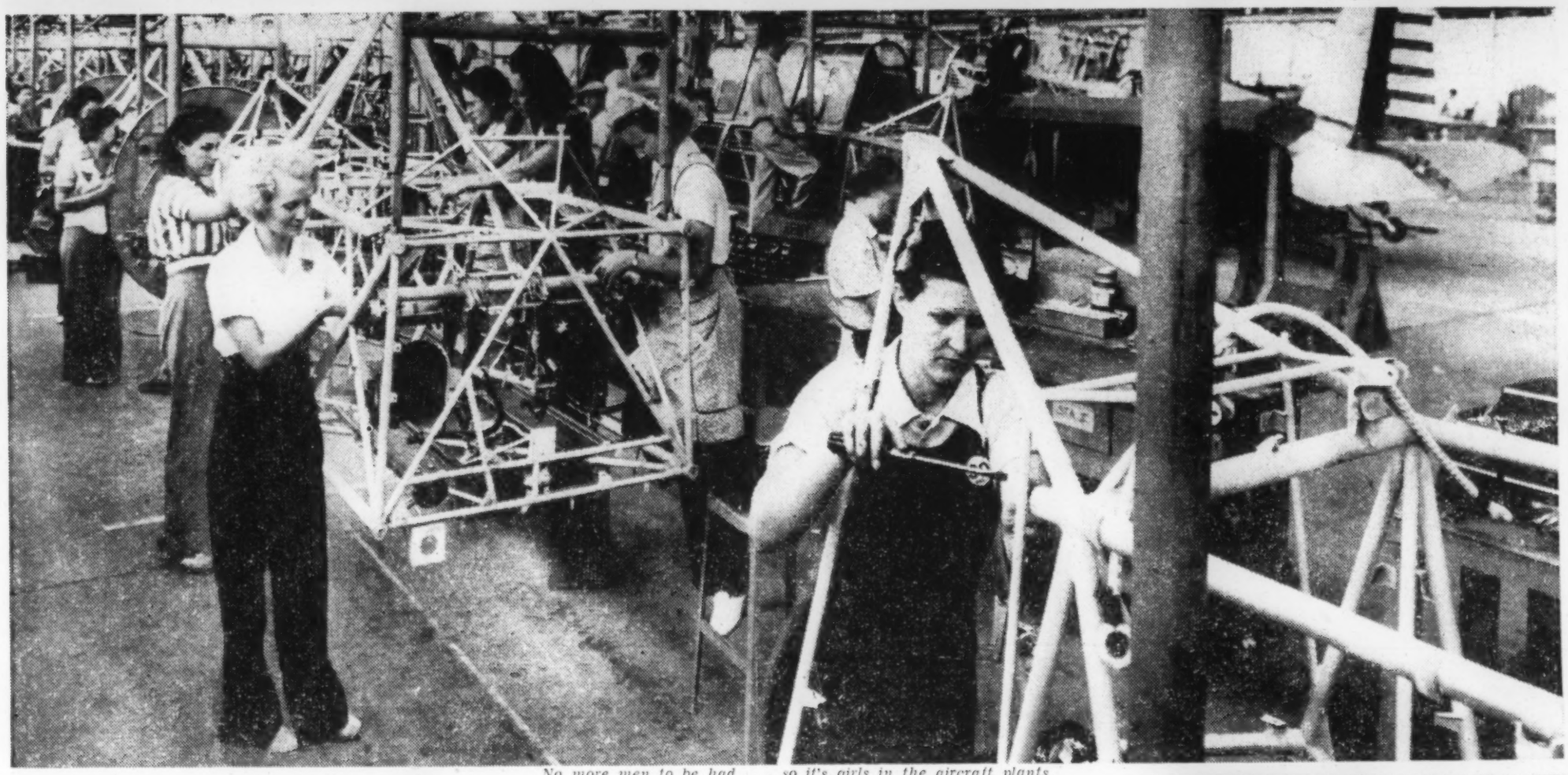
Springfield, Mass. UNION (Morn)
May 27, 1941.

WILL TRAIN GIRLS

An afternoon shift of multioccupational courses for training additional young women for defense industry is being planned by Trade School officials and will be put into operation as soon as it can be organized, Principal George A. Burridge said yesterday. The extra shift will run from 2 to 8 p.m. and will accommodate about 40 girls. The Federal government is expected to pay the cost as a defense instruction project.

OCCUPATIONS - DOMESTIC WORKERS

Even Women Workers Are Scarce in the Northwest



No more men to be had . . . so it's girls in the aircraft plants.



Waitresses and beauty-shop operators are leaving these jobs for better-paying war plants in the Pacific Northwest. But they aren't leaving fast enough.

Some Don't Like the Work

Waitresses, Housewives Join War Industries, But More Are Needed

By RUTH FINNEY



Miss Finney

SEATTLE, Aug. 21—In the Pacific Northwest man power is becoming woman power so fast you can almost see it happen.

War industry, sometimes with good grace, sometimes with poor, is opening its gates to women. There are practically no more men to be had.

Boeing Aircraft led the way in Seattle. Four months ago it began to call for women factory workers. In one month it hired more than 1700 women. In one day it hired 300. Today 26 per cent of all its employes in the Seattle plant are women. In some departments nearly 50 per cent are women. And the end is not in sight. When Boeing can get the materials, it expects to increase its present production by two-thirds. Most of its new workers, from this point on, will have to be women.

Women are being hired also in such unlikely spots as sawmills. The Weyerhaeuser Timber Co. has 185 women working in its Longview plant. The St. Paul & Tacoma Lumber Co., which doesn't like the idea at all, has concluded it won't be able to operate unless it takes in women. Its personnel manager has surveyed the mill and found some 60 jobs he thinks women can fill. They're going in among the heavy logs, the power saws, the tricky conveyor belts.

Service industries are feeling the pinch. Waitresses and beauty-shop operators are leaving these jobs for the better-paying war plants. But they aren't leaving fast enough. Enrolment at vocational aircraft-training classes in the State of Washington has dropped 44 per cent, just as demand is curving up fast. A call for voluntary registration of women willing ot take war jobs produced only a few thousand possibilities.

Seattle almost has to get the new workers it needs from this community, because there is no place left for newcomers to live, and no chance of building new homes for them. Some Government officials are predicting that before long every woman who can work—even housewives with small children—will have to be asked to take a factory job.

DOING WELL

Plant executives so far haven't quite made up their minds about women workers. Words of praise are mixed in with comments about the problems raised by women workers.

"They are doing rather well," says H. O. West, executive vice president of Boeing Aircraft. "They are better in some operations than others. In operations requiring deftness they are better than men."

Boeing finds that the absent rate of women workers is no higher than that of men, but the quit rate is higher. Girls take the training, start to work, but don't like it—they're bothered by the noise, or find the work too hard. It's hard to impress safety regulations on them, hard to get them to bind up their long bobs, and leave off jewelry. And they cause "disturbance" in the plant, officials say.

Eventually, Boeing hopes to solve this last problem by concentrating most of the women on sub-assembly work, which in its plant is done a floor above other operations. Meanwhile they're all over the plant bucking rivets, working on tall wing jigs, cutting out sheet metal, operating drill presses and punch presses, working spot-weld machines, screw machines, saws, lathes.

HEAVY WORK

The Weyerhaeuser Timber Co. is using women for such difficult and heavy work as sorting lumber as it moves on chain conveyors, tallying lumber, tying, stacking end-matched lumber, operating trimming machines, and running yard locomotives. It has used women for some time, and says on some jobs—tying, for instance—they're better than men.

The lumber companies hire husky women only; prefer them to weigh about 150 pounds. They can get them like that in this part of the country.

Seattle has scarcely made a start at solving the problems this latest industrial revolution is raising. Women with children have to find relatives or friends with which to leave them—nursery schools are few and inadequate. Women on the day shift—and most of them are—have no time to shop. Retail stores have tried to solve this by keeping open one night a week, till 9. Domestic help is almost impossible to get—most of the workers have to cook a meal at the end of the day. Women are being admitted into labor unions, but have no real part so far in running them.

Employers are asking no questions about the private problems of their women workers. "We're building airplanes, not doing social work," one of them said.



Working women with children have to find relatives or friends with which to leave them. Nursery schools—such as above—are few and inadequate. Women on the day shift have no time to shop.



Absent rate of women workers is no higher than men's, but the resignation rate is higher. Some girls find the work too hard. Above: girl messengers use motor-scooters in the big Boeing Seattle plant. (Flying Fortress in background.)



Plant executives so far haven't quite made up their minds about women workers. In operations requiring deftness, women are better than men. Above: blueprint machine operators in the Boeing's Seattle plant.

OCCUPATIONS -Dyes

ADVANCE RELEASE

Dyes

ADVANCE RELEASE: For WEDNESDAY AFTERNOON Papers, May 26, 1943.
Hallock--75387

OFFICE OF WAR INFORMATION
WAR PRODUCTION BOARD

W-180

During the last war, lack of dyes and dyestuffs normally imported from Central Europe gave the initial impetus to the development of a domestic dye industry which is providing, in this war, enough dyes--and good ones---not only for uniforms, but for civilian garments as well.

Only nine vat dyestuffs---khaki, golden orange, olive green, one shade of yellow, two shades of brown, and three shades of olive---are specifically prohibited for civilian goods. They are used to dye the millions of uniforms needed by the armed forces.

Wartime textiles, yarns, and threads for civilians run the usual gamut of color, from black and navy blue to palest ivory, because dyes are available to produce the reduced yardage of civilian goods in any desired color.

Dyers, however, are restricted by the War Production Board from using for civilian goods more than 60 per cent of the amount of organic dyestuffs they used in 1941, so they make available supplies go further by making colors lighter. Rayon dyers, on their own initiative, limit the use of black or dark colors to 25 per cent of any one dye order.

Navy blues, deep wines and purples are a shade or two less intense. Vivid reds have a softer glow. Felt hats and fabric shoes in lighter colors harmonize with lighter-hued garment textiles.

Print designs are smaller and spaced farther apart on lighter backgrounds. Lacy, thin-line patterns, giving the effect of an all-over print without calling for as much dye, and plaids with white background are in the ascendancy.

For only two textile products---blankets and hose---has WPB specifically restricted the number of colors which may be used. Instead of as many as 15 colors, as previously used, no one line of blankets may be made in more than four colors, plus white. Each hosiery maker is allowed seven basic colors of his own choosing for each half-year period.

Five basic colors, plus white, are permitted at one time in any one style of women's or men's hose. Three war service colors, however, may be added to men's hosiery lines. In novelty socks, no more than four basic colors may be used, though contrasting stripes and figures are still permitted for any misses', children's, or infants' hosiery.

Conservation of dye supplies will make about 55 million pounds of dyes---and the chemicals that go into them---available for war production. Toluene that doesn't go into dyestuffs goes to make TNT. Benzene can be used for high octane gasoline and synthetic rubber. Phenol is needed for the production of sulfa drugs. Anilin, as an ingredient in explosives, makes possible exact timing of explosion.

OCCUPATIONS - FISHING + CANNING

Taken from "The Labor Market"
May 1944 issue, page 3.

Call for 700,000 Cannery Workers

More than 700,000 men and women will have to be recruited for work in canneries and other processing plants before the end of summer, WMC Chairman McNutt announced recently. Nearly 19 billion pounds of food must be handled.

Total requirements for canned or processed fish products have been raised from a production of 4 billion pounds in 1943 to 5.3 billion pounds for 1944, the Office of Coordinator of Fisheries of the Department of the Interior and the War Food Administration report. To handle this job, WMC estimates that 268,000 workers must be found, an increase of 63,600 over the workers employed in 1943. Estimated requirements for other processed food, including vegetables, berries, and similar perishable products, are over 13 billion pounds, against 12 billion pounds last year. To handle this processing job will require approximately 482,000 workers, 44,000 more than last year. In addition WMC must recruit workers for the manufacture of cans and containers.

The meat packing industry, although not highly seasonal, is also looking to WMC to keep its working force at the point where it can handle 25 billion pounds of meat--2 billion pounds more than it did in 1943. The packers will need 16,000 more workers during 1944 than they had in 1943.

Fishing

IN REPLY REFER TO

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE COORDINATOR OF FISHERIES
WASHINGTON

May 11, 1943

Mrs. Rachel Nyswander
Women's Bureau
Labor Department
Washington, D. C.

Dear Mrs. Nyswander:

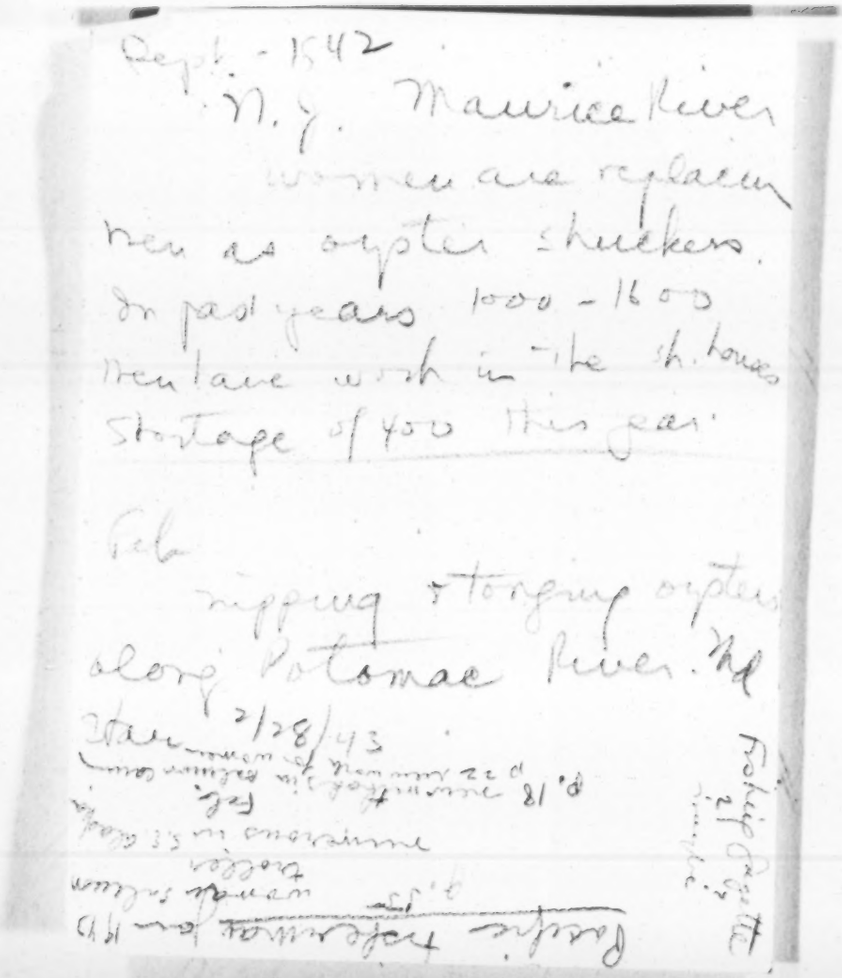
Another item on new jobs for women in the fishing industry has just come to light. The Pacific Fisherman Yearbook for 1943, page 287, describes the employment of women as fish filleters in west coast plants.

Many thanks for the publication, and your help.

Sincerely yours,

Rachel L. Carson

Rachel L. Carson
Associate Aquatic Biologist



Dept. - 1542
N. Y. Maurice River
women are replacing
men as oyster shuckers.
In past years 1000 - 1600
men have work in the shores
Shortage of 400 this year.

Feb
nipping & forging oysters
along Potomac River. Md

Date 2/28/43

OCCUPATIONS — FLOUR MILLING

June 22, 1951

The following milling firms were visited by Elsie Wolfe in May, 1943 - for background material for this speech by Miss Anderson:

General Mills, Inc. - Kansas City, Mo. - Reg. IX

General Mills, Inc. - Oklahoma City, Okla. - Reg. X

Kansas Milling Co. - Wichita, Kansas - Reg. IX

The firm reports are filed in Regional War Industries in proper states.

Please return to

R F Nyswander
Womens Bureau

WOMEN WITHIN THE MILLING INDUSTRY

by

Mary Anderson, Director
Women's Bureau
U. S. Department of Labor

48th Annual Convention
Association of Operative Millers
Kansas City, Mo.

June 8, 1943.

I am very happy to be present at this particular convention of the Association of Operative Millers. As the flour millers of the country, the policies you plan will affect our far-flung armies and distant fleets, as well as workers in factories and in necessary civilian services here at home. You are in charge of producing what is perhaps the most important commodity in the daily lives of all of us -- for to many millions, flour is the most important item of all food stuffs.

When I received the invitation through your executive secretary to speak here, I was pleased to know that a topic on women "would be interesting to all in the audience." I confess I was a little surprised, as we were not aware that flour mills were considering any widespread use of women.

We have thought of the flour milling industry as a man's industry, vertically as well as horizontally, all jobs, whether in the clerical force or in the mill proper, being filled by men primarily. Yet on second thought I had only to remember what is happening in many "men's industries" - the oil refineries, lumber and timber, paper and pulp, in steel, the ore mines, sugar refineries, transportation - to know you must be having similar experiences as to employment needs. And some of you already, I find, are "talking the same language" these other industries are, in this respect.

"Women are replacing men on all types of jobs except where heavy lifting is involved" - that is the statement over and over again that appears in every story of industrial production today. It is not widespread for many flour mills perhaps. How extensively it develops will depend of course on various factors - mainly on whether you are in a critical labor-shortage area. I understand most milling centers are, or will be. Buffalo, Wichita, Seattle, Tacoma, Portland, Oklahoma City, and Chicago are all named.

How successful you will find women's performance will depend to a great degree on you or your personnel manager: Careful selection of the women employees first of all, then proper training and adjustment, helpful supervision on the job, satisfactory working conditions.

The employment problems in plants today are different from yesterday, and might be set up as follows: Those which may be laid at the door of management itself, and those that develop due to the nature of the labor reserves now available.

Some employers have just come to realize that they will have to employ women. They have put it off as long as possible. Now, all of a sudden, not only are they confronted with getting an entirely new group of workers, but some of you are probably having to hire many at once - which means that induction and other personnel problems are more complicated than in days past, when only a few at a time were taken on. If your employees have been solely men, you now wonder if there are any special employment problems connected with women. You ask about other employers' experiences. You want to know where to go for information about women workers, as to their health, what labor laws apply to them, and so on.

These problems are perhaps more intensified than ever before, even more worrisome to every one than they were a year ago, simply because the complexion of the woman labor reserve force has changed. To illustrate this, I want to comment on where the women workers have to come from.

As background, I should explain that although the number of women in our labor force was increasing very fast in 1941, by the time the year 1942 ended, almost 2½ million more women had been employed, over 1941. Where had they come from? In those months following the Japanese attack on Pearl Harbor, women who were waiting to find jobs in war industries had done so; some of them

had had past factory experience; others were family members of the men employees taken for our armed forces and from our civilian industry, and they knew from family conversation what work in that factory or mill meant. Still others voluntarily applied for jobs, from a patriotic motive.

That is the story for 1942. Now in 1943, about two million more women have to be found. Where is the new woman worker of 1943 coming from? This brings us to my statement that the complexion of the woman labor reserves has changed. It is the housewives who must now be recruited, as more soldiers and sailors are needed. Relatively few will belong to the factory family group. The majority will be new in every sense to what factory employment means; they are not used to factory conditions, do not have working habits that fit easily into production routine - though they may be very quick to learn the job itself. Further, because they have not voluntarily thought it necessary to "join up" for factory work, their attitudes are different from the earlier women who were free to find war jobs, who wanted war jobs, who wanted to get into training courses, and who were not afraid of factory work.

I stress these points for you, because this is what we are faced with in the labor situation today. True, there will be some shifting of experienced workers, with the approval of the War Manpower Commission, but all estimates of labor needs indicate this is only a drop in the bucket in some areas.

Those of you in rural areas may not find it hard to recruit workers, provided they are not needed on the farms, and to get good ones, because the labor reserves in rural areas are, I believe, of better caliber than what is available in the labor-shortage areas. There are probably older men, young girls, available. But in the large industrial centers named earlier, the cream of the labor-reserve crop has already been taken, and the employer who told us back in 1941 that soon he would have to decide whether he wanted to hire a

first-rate woman or a second-rate man has long since found even the latter was not available, and he has lost his chance to take that first-rate woman because a more foresighted competitor has hired her.

Because the woman worker of 1943 will be carrying two jobs by and large - she is first a housewife, you know - every effort should be made to see that her two jobs are arranged as carefully as possible from her personal standpoint. She may need assistance on matters connected with household duties - such as shopping, marketing for groceries, banking, even legal services (her husband may be far away), and where there are children, proper care and supervised recreation for them. Her whole life has revolved around these, in the past. The daily planning which has become a fixed habit now has to be changed into new channels.

Much more could be done in some communities in working out some of these problems. Recently we had an inquiry from one of the largest chain grocery stores in the country asking if we knew any place where a personal food-shopping service has been established. Evidently that local grocery manager was trying to get something worked out. We could not tell him of any.

I do not know whether more effective community action would result, if employers only showed more interest - a woman can't be a good worker if she is worrying about things at home. Or whether responsibility should be placed more squarely on community groups, on citizens whose contribution to the war could find expression in "carrying through" on such needed facilities.

But I do know that absenteeism - which several months ago greatly troubled all of us - has quite different causes for women workers than for men. One flour mill representative said he did not think women were absent often without good cause - family responsibilities had to be considered, and illness.

What jobs are women filling in flour mills? Perhaps some of you heard George Burns and Gracie Allen entertaining the head of a food products company, about a month ago on their radio program, in which Gracie said she knew how puffed rice was made - "you just flatter the rice enough and it gets all puffed up." Recent facts about women in some of your mill jobs I am sure should make both you and me feeled puffed up.

In talking about jobs they are doing, I am going to take the liberty to suggest where else I think they might be used. My remarks won't apply to all of you, because most mills employ fewer than 21 wage earners I believe, and many employees here are long-time "all-round" men. But even in the smaller mills I am told the situation is changing, and the various operations are being performed by different individuals, women in many cases.

As to the milling process itself, the beginning job is sweeping. I was somewhat surprised to have a report from one large milling center that, in general, women were not considered as "effective" of "efficient" as men cleaners - yet from a mill in another area came the flat statement that this is one type of work in mills formerly done by men which is now being done by women. In a picture I saw of women sweepers in a flour mill, they were holding brooms and had them placed on the floor in sweeping position - if I hadn't seen the automatic machinery in the background I would have said here were several housewives ready for spring cleaning. Women were used on this work in World War I.

Perhaps this case is just one, and should not be overemphasized. There is a kind of superficial thinking, nevertheless, by certain administrative officials that can best be illustrated by this story: If a woman falls downstairs in a plant that hasn't used women before, it is not too difficult to find some supervisors conclude that all women fall downstairs, and therefore they shouldn't be employed because of the insurance risk!

If it is meant that women could not be used also as oilers of machinery (general mill oiler is the job next in order), I would like to suggest that they are doing this work in other industries, in other plants, but they have been carefully trained. In a Pennsylvania paper and pulp mill, girls are used now as oilers on the fronts of machines and later will be put on the "back" jobs. (I use this illustration because of the large machinery installed in these mills.)

I read in a trade periodical that a roll-oiler "determines which bearings need attention by laying his hand on each, and inspecting any that feel warm, in which case he calls the grinder or miller." I do not find that women are doing this work. One remark we hear from many employers in machine-shop industries is that women "get the feel" of the job as quickly as men, and for the mill job of roll-oiler, I think any woman might be quite sensitive at being told she could not gauge the temperature of bearings by touch - when for years she had used hand or finger to test the oven heat for cakes or pies, to try the baby's bath water, to test an electric iron before starting a day's family ironing, and so on.

Another milling-process operation I read about, in detail, was that of "machine-tender" - keeping spouts clean and free of bugs, to control infestation, and to allow streams to run freely. This article says he makes sure bleachers are working properly, checks the pressure gauge on gas tanks, for if they are empty, unbleached flour comes out. I think a carefully instructed woman could do either of these. The job of replacing silks on the inside of sifters, of looking over reels and purifiers, and making repairs on worn silk, requires specialized training and experience, of course. It is careful work, demands expert attention, and deft fingers. I understand women

are mending or repairing silks, but do they do these other jobs?

In flour milling for the commercial bakers, cleaning of flour sacks is a job where women are replacing men. In one mill, it was planned to use women entirely on this, eliminating men. A foremen in another mill said women "cleaned just as many sacks as men." I was told this was dirty work, and strenuous. Women too are employed at mending these second-hand flour sacks, returned for refilling; they are operating power-sewing machines. This is an old story, in effect, for women are in every factory where there is sewing of fabric.

I would not expect to find women as grinders and beltmen, or as millwrights, boltermen, or as millers - though there may be some.

Laboratory testing has been recognized widely as a type of work on which women and girls are capable - and in every report we have of flour milling, women are so employed (in some cases, even before they are on any other jobs in the mill). Their duties of course depend on their education, as well as training and experience with the company. Routine testing is within the range of any girl of high school education, if she has been carefully selected and trained for employment on this type of work.

In sugar refineries - up to now a "man's industry" - women are operating machines, juice evaporators, running first and second carbonation, third saturation, centrifugals, granulators and melters. And some have learned to boil sugar, a job that is exacting and somewhat of an art.

In paper and pulp mills, women are testers in the bleach plant, caustic testers, wet end testers.

The "big" jobs where women are used in flour mills are packaging and loading. It was probably these two occupations a milling executive had in mind, when he told our regional representative that women can probably be used in one-third of the jobs in flour mills - and undoubtedly he wanted us to remember the size sack or bag would govern this mainly.

Women are filling sacks up to 24 pounds in weight, and they also operate sewing-closure machines, but in mills not packaging these smaller units, only a man does this (handling the 50-pound and 100-pound sacks.)

I want to mention here an interesting statement in a recent issue of the New York Journal of Commerce, that the increasing use of women in food distribution may force a repackaging program for all bulk products - flour was named, along with sugar and others - which up to now have moved more often in larger volume units, of 100 pounds or more. (I notice the War Production Board recently limited flour units to 100 pounds maximum, eliminating the old-time unit of the 196-pound barrel.)

In some mills, women are used for loading the filled bags in cars for shipment; they are called "loaders." One milling official said he didn't use women at all on this work as all sizes of bags were included.

I understand that in all automatic lines in flour mills there is still lifting to be done. A repackaging program may have to be the answer for some of you in labor shortage areas. It occurs to me also that it may only be necessary to plan for loading of the smaller packages separate from the loading of the heavy ones, using women on the former. In the Union Station here in Kansas City, women are operating the parcel and baggage wagons, the loading and unloading, of everything but the heaviest trunks.

At this point I want to emphasize that women should not be employed on heavy work unless they have been selected deliberately for it - they should have large frames and heavy muscular strength. The Women's Bureau has issued a pamphlet on the proper way to lift and to carry weights. We say -

Keep your arms and back straight, bend your knees and lift with your legs.

Never lift while in an awkward position.

Be sure you have good footing. Lift with a smooth even motion. Don't jerk.

When lifting from a bench, slide the package close to your body and after grasping it, keep your arms stiff. Make the lift by bending your body backward.

If lifting with another person, make sure you both lift at the same time and let the load down together.

Wipe oil or grease from your hands before attempting to lift.

Rather unusual stories are constantly turning up about women handling much heavier weights than the 25-pound limit. In every case it is true it is a story of a stronger-than-average woman - but we are beginning to feel that there really are numbers of women who are capable of handling some of these heavy jobs, when - and only if - they are selected for such heavy work. Our woman population has its share of physically-strong members.

The most unusual story of the few I shall give here is not that of a Paul Bunyan in feminine form, but of a woman of only 95 pounds, who lifts 50 pound steel bars and feeds them into a screw machine 8 hours a day. She says she stands the job because she was formerly an acrobatic dancer. Much significance can be read into this story - you all know what expert balance and

careful placing of body position a dancer assumes when she is on the receiving end of acrobatic stunts. Here are others -

In the sugar industry, women are packing sugar; they do not pile. But some adjustments were made when women took over these jobs, so that when valves were too heavy to lift they were to be counterbalanced.

In a paper and pulp mill, the type of girl hired for work in the piling room, was not the husky, heavy duty sort but the wiry athletic, vigorous girls, and 5 feet 6 inches tall or taller, to make easy the work of lifting and piling; 9 girls are used in place of 8 men. The men have been shifted around for the very heavy work.

In railroad yards, women are pushing wheelbarrows of material, loading and unloading steel bars, straightening loads of lumber, unloading boxes for freight cars; and in the steel industry, one woman had her picture taken while on her job of pushing a heavy wheelbarrow at an open hearth furnace.

As to clerical jobs, I want to pay tribute not only to the usual women office workers long on the job as private secretaries, and first as stenographers and typists - without whose work no plant could be in operation - but to women's advancement in clerical work in "men's industries", where they are replacing men clerks in all departments. The first-hand reports I have from the Bureau representative in this region indicate the flour milling industry is following suit in introducing women on practically all desk jobs.

In our surveys of factories in the past, and of war plants these last several years, when we examine the kinds of jobs women are doing, and advise on their more extensive employment, we have observed working conditions - cleanliness

what necessity there is for safety-type clothing, any exposure to harmful dusts and poisons. Sometimes we have had to make very uncomplimentary statements in this respect.

No industry probably is more conscious of the need for cleanliness than yours, and from all I am told by several inspectors who have been in a few mills recently, this is immediately obvious - floors are very clean. Working conditions are good, they say, ventilation and light good, and very little flour dust in the air.

Uniforms seem to be called for, not because of physical hazards from the job, but for the women to keep and feel themselves clean. While I do not say they should be required, yet if they are I believe the company should pay for them; in one mill the company also pays for the laundering.

Plant facilities for the women workers in one mill on which we have a report are also very good. I hope this is true for all mills. I am referring to lockers, washing and toilet facilities, and rest rooms. The food service here was adequate, reasonable in price and the food well cooked. As to lunchtime and rest periods, we do not have enough reports to indicate the general practice, but I assume the typical arrangement for lunch periods depends on whether the machine can be shut off. We recommend at least one-half hour for lunch. I understand that for the milling process itself, where flow is continuous, workers take turns watching each other's machine; in this case, they are paid for the lunch period. Rest periods of 10 minutes are planned in some mills, and I notice workers too are changed about on jobs.

We are often asked: What are the optimum work hours for women? The 48-hour week has been recommended by 8 Federal government agencies, including the War and the Navy Departments, as the best for both men and women working under

pressure over a long period. This is particularly true for women as they become fatigued sooner than men. It is of course recognized that longer hours may be necessary for a short spurt to meet production schedules, but this should be done under the supervision of the State labor authority.

The greatest problem it seems to me, and the most complicated one in many respects, that employers face in hiring women for the first time is that of wage rates. I find this true somewhat for flour milling, as on certain jobs women are receiving a lower entrance rate than are men.

One flour mill official made the following statement to us:

"Women 'had been proven' to be 80 percent as efficient as men." In this plant, women's rate was 57.2 cents, men's 71.5 - except for sweeping and cleaning where the rate for women was 49.2 as against 61.5 cents for men.

In another case it was said:

"Women's efficiency not as high as men even though their production on certain jobs exceeds that of men's, as women can't be used on all-round jobs."

In this plant, women's starting rate was 75 percent of men's, but when they have learned the job they received the same rate of pay, except in sweeping where the differential was 10 cents (61 cents for women, 71 cents for men). Other jobs had a wage rate of 71, 75, and 80 cents, for sack cleaning, loader, and packer respectively, the same for men and women.

A third mill reported:

> "Women are only 75 percent as efficient as men cleaners." In this plant the minimum entrance rate for packing was 48 cents for women, 57.5 cents for men. After 3 months, the men receive 60 cents, the women 52 cents, an hour.

A statement found about one plant shows that women work the same hours as men, do receive men's pay - the basic wage being 51 cents an hour.

I want to discuss this 75 percent and 80 percent "efficiency" of women. In a War Labor Board case last fall, the panel appointed to take the matter of "equal pay" under consideration, made the following statement in recommending that the discrimination between men and women be ended.

> "If this panel may have a small part in demolishing the fictions and the fallacies which have arisen from certain facts of female physiology, it will have served a worthy purpose..... There is no proof, scientific or otherwise, that women are 20 percent less capable than men."

The real measure of efficiency is found on the production chart. Hundreds of records exist which prove women's production on jobs they have taken over from men is excellent. And there are plenty of instances where with experience they even exceed the men's record, one in particular coming from a Kansas flour mill.

In the smaller flour mills, with few employees, I can imagine the women hired should be selected first for physical strength; they can then be used on more jobs. Training time is short on the usual jobs for which women are first

hired; as they become more familiar with the machinery, with plant routine in maintenance and service, and watch the experienced employee perform his several tasks, they will become more versatile themselves.

The Women's Bureau would like to see every establishment in the country have one entrance rate for the job, no matter whether men or women are hired for it. Where a learning period is necessary, women should not come in at any lower learning rate than an inexperienced man.

Having unequal rates of pay for men and women only makes for trouble later on. Men and women are interchangeable now on too many jobs to make this practice tenable. The logic of it seems inescapable to me. If she is kept on at a lower rate after her training period is over, and her production record compares favorably with the man's she replaced, the employer can be accused of "exploiting" women. No employer likes to have that word used about his employment practices. And the man who wants his job back after the war can complain that the woman is undercutting him. No woman feels she can be held responsible for this undercutting, although she recognizes the injustice done, more keenly than the man. He is a fellow worker beside, and she is proud of doing his job so well, when he went off to war.

On every side we are told that women are doing a most remarkable job in the factories, not only in increased production along many lines where they have always been considered superior to men workers, but in these new operations never considered suitable for women, and in these industries heretofore closed to them.

It is because their role as workers is as splendid as it is, in the industrial life of our country - efficient, dependable, responsive - that we find women a real mainstay back of the magnificent record industry is achieving today, to keep our soldiers and sailors armed, fed, and clothed and the functioning

of our home life moving in smooth channels.

I want to thank you all for this opportunity to speak to you and meet with you. For many years now I have watched the Women's Bureau volume of information grow. We have a wealth of experience concerning the types of work women do effectively, and our staff members have been counseling individual employers as to more extended employment of women, through occupational surveys made of various war industries; these are available in bulletin form - aircraft; artillery ammunition; instrument-making; cannon and small arms; and we are now making a survey of shipyards. The Women' s Bureau has also issued a series of 10 pamphlets on standards for women's working conditions, most of which will be found applicable to the flour milling industry.

The Women's Bureau was created at the time of the last war. We are authorized "to fomulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment." And further, we are given the "authority to investigate and report.... upon all matters pertaining to the welfare of women in industry."

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WOMEN WITHIN THE MILLING INDUSTRY

by

Mary Anderson, Director
Women's Bureau
U.S. Department of Labor

48th Annual Convention
Association of Operative Millers
Kansas City, Mo.

June 9, 1943

When I received the invitation through your executive secretary to speak here, I was pleased to know that a topic on women "would be interesting to all in the audience." I confess I was a little surprised, as we were not aware that flour mills were considering any widespread use of women.

We have thought of the flour milling industry as a man's industry, vertically as well as horizontally, all jobs, whether in the clerical force or in the mill proper, being filled by men primarily. Yet on second thought I had only to remember what is happening in many "men's industries" - the oil refineries, lumber and timber, paper and pulp, in steel, the ore mines, sugar refineries, transportation - to know you must be having similar experiences as to employment needs. And some of you already, I find, are "talking the same language" these other industries are in this respect.

"Women are replacing men on all types of jobs except where heavy lifting is involved" - that is the statement over and over again that appears in every story of industrial production today. It is not widespread for many flour mills perhaps. How <u>extensively</u> it develops will depend of course on various factors - mainly on whether you are in a critical labor-shortage area. I understand most milling centers are, or will be. Buffalo, Wichita, Seattle, Tacoma, Portland, ~~Kansas City~~, ~~Minneapolis~~, ~~Toledo~~, ~~St. Louis~~, and Chicago are all named. ~~I am told most half of the flour produced (daily capacity I refer to) is located in definite labor-shortage areas.~~

How <u>successful</u> you will find women's performance will depend to a great degree on you or your personnel manager: Careful selection of the women employees first of all, then proper training and adjustment, helpful supervision on the job, satisfactory working conditions.

The employment problems in plants today are different, and might be set up as follows: Those which may be laid at the door of management itself, and those that develop due to the nature of the labor reserves now available.

Some employers have just come to realize that they will have to employ women. They have put it off as long as possible. Now all of a sudden not only are they confronted with getting an entirely new group of workers but/some of you are probably having to hire ~~them in quantity~~ - which means that induction and other personnel problems are more complicated than in days past when only a few were taken on at a time. If your employees have been solely men, you now wonder if there are any special employment problems connected with women. You ask about other employers' experiences. You want to know where to go for information about women workers, as to their health, what labor laws apply to them, and so on. Management has not been foresighted enough, if by June of 1943 it is not ready with answers to these questions.

These problems are perhaps more intensified than ever before, even more worrisome to every one than they were a year ago, simply because the complexion of the woman labor reserve force has changed. To illustrate this, I want to comment on where the women have to come from.

As background, I should explain that although the number of women in our labor force was increasing very fast in 1941, by the time the year 1942 ended, almost 2½ million more women had been ~~added to our labor force~~, over 1941. Where had they come from? In those months following the Japanese attack on Pearl Harbor, women who were waiting to find jobs in war industries had done so; some of them had had past factory experience; others were

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family members of the men employees taken for our armed forces, and they knew from family conversation what work in that factory or mill meant. Still others voluntarily applied for jobs, from a patriotic motive.

Several Inclusions

That is the story for 1942. Now in 1943, ~~still~~ about two million more women workers have to be found. Where is the new woman worker of 1943 coming from? This brings us to my statement that the complexion of the woman labor reserves has changed. It is the housewives who must now be recruited, as more soldiers and sailors are needed. Relatively few will belong to the factory-family group. The majority will be new in every sense to what factory employment means; they are not used to factory conditions, do not have working habits that fit easily into production routine - though they may be very quick to learn the job itself. Further, because they have not voluntarily thought it necessary to "join up" for factory work, their attitudes are different from the earlier women who were free to find war jobs, who wanted war jobs, who wanted to get into training courses, and who were not afraid of factory work.

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Those of you in rural areas may not find it hard to recruit workers, and to get good ones, because the labor reserves in rural areas are, I believe, of better caliber than what is available now in the labor-shortage areas. There are probably older men, young girls, available. But in

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large industrial centers named earlier, ~~I believe~~ the cream of the labor-reserve crop has already been taken, and the employer who told us back in 1941 that soon he would have to decide whether he wanted to hire a first-rate woman or a second-rate man has long since found even the latter was not available and he has lost his chance to take that first-rate woman because a more foresighted competitor had hired her.

Because the woman worker of 1943 will be carrying two jobs by and large - she is first a housewife, you know - every effort should be made to see that her double life is arranged as carefully as possible from her personal standpoint. She may need ~~advice~~ assistance on matters connected with household duties - such as shopping, marketing for groceries, banking, even legal services (her husband ~~is~~ may be far away), and where there are children, proper care and supervised recreation for them. Her whole life has revolved around these, ~~it must be remembered~~ in the past. The daily planning which has become a fixed habit now has to be changed into new channels.

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But I do know that absenteeism - which for the last month or two has troubled all of us - has quite different causes for women workers than for men. One flour mill representative said he did not think women were absent often without good cause - family responsibilities had to be considered. (Illness, statistics show, is one cause of absenteeism more often for women than for men.)

What jobs are women filling in flour mills? Perhaps some of you heard George Burns and Gracie Allen entertaining the head of a food products company, about a month ago on their radio program, in which Gracie said she knew how puffed rice was made - "you just flatter the rice enough and it gets all puffed up." I hope you don't think my information on flour milling is going to be as sketchy as this - it will not be as entertaining perhaps, but recent facts about women in some of your mill jobs I am sure could make both you and me feel puffed up.

In talking about jobs they are doing, I am going to take the liberty to suggest where else I think they might be used. My remarks won't apply to all of you, because most mills employ fewer than 21 wage earners I believe, and many employees here are long-time "all-round" men. But even in the smaller mills I am told the situation is changing and the various operations are being performed by different individuals, women in many cases.

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In sugar refineries - up to now a "man's industry" - women are operating machines, juice evaporators, running first and second carbonation, third saturation, centrifugals, granulators and melters, and some have learned to boil sugar, a job that is exacting and somewhat of an art.

In paper and pulp mills, women are testers in the bleach plant, caustic testers, wet end testers.

The "big" jobs where women are used in flour mills are packaging, and loading. It was probably these two occupations a milling executive had in mind when he told our regional representative that women can pobably be used in one third of the jobs in flour mills - and undoubtedly he wanted us to remember the size sack or bag would govern this mainly.

Women are filling sacks up to 25 lbs. in weight, and they also operate sewing-closure machines, but in mills not packaging these smaller units, only a man does this(handling the 50-lb. and 100-lb. sacks).

I want to mention here an interesting statement in a recent issue of the New York Journal of Commerce, that the increasing use of women in food distribution may force a repackaging program for all bulk products - flour was named, along with sugar and others - which up to now have moved more often in larger volume units, of 100 lbs. or more. (I notice the War Production Board recently limited flour units to 100 lbs. maximum, eliminating the old-time unit of the 196-lb. barrel.)

In some mills, women are used for loading the filled bags in cars for shipment; they are called "loaders." One milling official said he didn't use women at all on this work as all sizes of bags were included. ~~it was too heavy.~~

I understand that in all automatic lines in flour mills there is still lifting to be done. A repackaging program may have to be the answer for some of you in labor shortage areas, It occurs to me also that it may only benecessary to plan for loading of the smaller packages separate from the loading of the heavy ones, using women on the former. In the Union Station

here in Kansas City, ~~where~~ women are operating the parcel and baggage wagons, the loading and unloading, of everything but the heaviest trunks.

At this point I want to emphasize that women should not be employed on heavy work unless they have been selected deliberately for it - they should have large frames and heavy muscular strength. The Women's Bureau has issued a pamphlet on the proper way to lift and to carry weights. We say -

Keep your arms and back straight, bend your knees and lift with your legs.

Never lift while in an awkward position.

Be sure you have good footing. Lift with a smooth even motion. Don't jerk.

When lifting from a bench, slide the package close to your body and after grasping it, keep your arms stiff. Make the lift by bending ~~your~~ body backward.

If lifting with another person, make sure you both lift at the same time and let the load down together.

Wipe oil or grease from your hands before attempting to lift.

Rather unusual stories, ~~however,~~ are constantly turning up about women handling much heavier weights than the 25-lb. limit, ~~mentioned above~~. In every case it is true it is a story of a stronger-than-average women - but we are beginning to feel that there really are numbers of women who are capable of handling some of these heavy jobs, when - and only if - they are selected for such heavy work. Our woman population has its share of physically-strong members, ~~concentrated perhaps in certain sections of the country~~.

The most ~~amusing~~ unusual story of the few I shall give here is not that of a Paul Bunyan in feminine form, but of a woman of only 95 lbs. who lifts 50-lb. steel bars and feeds them into a screw machine 8 hours a day. She says she stands the job because she was formerly an acrobatic dancer. Much significance can be read into this story - you all know what expert balance and careful placing of body position a dancer assumes when she is on the receiving end of acrobatic stunts. Here are others -

~~Somewhat common to certain flour milling jobs are those~~ In the sugar industry, ~~where~~ women are sacking sugar; they do not pile. But some adjustments were made when women took over these jobs, so that when valves were too heavy to lift they were to be counterbalanced.

In railroad yards women are pushing wheelbarrows of material, loading and unloading steel bars, straightening loads of lumber, unloading boxes from freight cars.

In the steel industry, one woman had her picture taken while on her job of pushing a heavy wheelbarrow at an open hearth furnace.

At the Aberdeen Proving Ground, near Washington D.C., there is a well-publicized Abbott and Costello team - two women working side by side doing the same work, weighing and assembling rounds of ammunition and loading and unloading trucks. One is 105 lbs., the other 227 lbs. Because she is strong, but moves slowly, ~~she~~ the latter carries two of the 23½-lb. projectiles at once; the little one says her size is no drawback, except she has to reach a little higher, and she moves quicker than the other, runs back and forth with a single 23½ lb. projectile. Both women admit their appetites have increased and they have gained weight.

As to clerical jobs, I want to pay tribute not only to the usual women office workers long on the job as private secretaries and first as stenographers and typists - without whose work no plant could be in operation, but to women's advancement in clerical work in "men's industries", where they are replacing men clerks in all departments. The first-hand reports I have from the Bureau representative in this region indicate the flour milling industry is following suit in introducing women on practically all desk jobs.

In our surveys of factories in the past, and of war plants these last several years, when we examine the kinds of jobs women are doing and advise on their more extensive employment, we have observed working conditions - cleanliness, what necessity there is for safety-type clothing, any exposure to harmful dusts and poisons. Sometimes we have had to make very uncomplimentary statements in this respect.

No industry probably is more conscious of the need for cleanliness than yours, and from all I am told by several inspectors who have been in a few mills recently, this is immediately obvious - floors are very clean. Working conditions are good, they say, ventilation and light good, and very little flour dust in the air.

Uniforms seem to be called for, not because of physical hazards from the job but for the women to keep and feel themselves clean. While I do not say they <u>should</u> be required, yet if they are I believe the company should pay for them; in ~~some~~ one mill ~~I find~~ the company also pays for the laundering.

~~A report on one mill shows that the~~ plant facilities for the women workers are also very good. I hope this is true for all mills. I am referring to lockers, washing and toilet facilities, and rest rooms. The food service here was adequate, reasonable in price and the food well cooked. As to lunchtime and rest periods, we do not have enough reports to indicate the general practice, but I assume the typical arrangement for lunch periods depends on whether the machine can be shut off. We recommend at least one half hour for lunch. I understand that for the milling process itself, where flow is continuous, workers take turns watching each other's machine; in this case, they are paid for the lunch period. Rest periods of 10 minutes are planned in some mills, and I notice workers are changed about on jobs.

We are often asked: What are the optimum work hours for women? The 48-hour week has been recommended by 8 Federal government agencies including the War and the Navy departments, as the best for both men and women working under pressure over a long period. This is particularly true for women as they become fatigued sooner than men. It is of course recognized that longer hours may be necessary for a short spurt to meet production schedules, but this should be done under the supervision of the State labor authority.

The greatest problem, it seems to me, and the most complicated one in many respects, that employers face in hiring women for the first time is that of wage rates. I find this true somewhat for flour milling, as on certain jobs women are receiving a lower entrance rate than are men.

~~I want to quote some of the statements made to us by flour mill~~

One flour mill official made the following statement to us:

"Women 'had been proven' to be 80 percent as efficient as men."

In this plant, women's rate was 57.2 cents, men's 71.5, — except for sweeping and cleaning where the rate for women was 49.2 as against 61.5 cents for men.

In another case it was paid:

"Women's efficiency not as high as men even though their production on certain jobs exceeds that of men's, as women can't be used on all-round jobs."

In this plant, women's starting rate was 75 percent of men's, but when they have learned the job they receive the same rate of pay, except in sweeping where the differential was 10 cents (61 cents for women, 71 cents for men). Other jobs had a wage rate of 71, 75, and 80 cents, for sack cleaning, loader, and packer respectively, the same for men and women.

A third mill reported:

"Women are only 75 percent as efficient as men cleaners."

In this plant the minimum entrance rate for packing was 48 cents for women, 57.5 cents for men. After 3 months, the men receive 60 cents, the women 52 cents, an hour.

A statement found about one plant ~~it is reported however that~~ shows that women work the same hours as men, do receive men's pay — the basic wage being 51 cents an hour.

EW Kansas City

EW Kansas City

EW Chicago

Ill. 4/14 p. 22a

Lipscomb Grain Feed Co., Springfield Mo.

I want to discuss this 75 percent and 80 percent "efficiency" of women. ~~I imagine it has a biological origin.~~ In a War Labor Board case last fall, the panel appointed to take the matter of "equal pay" under consideration, made the following statement in recommending that the discrimination between men and women be ended:

> If this panel may have a small part in demolishing the fictions and the fallacies which have arisen from certain facts of female physiology, it will have served a worthy purpose.. The idea of 80 percent efficiency of women has evolved from a biological phenomenon which applies only to a period of time and not to relative efficiency and competence at other times. There is no proof, scientific or otherwise, that women are 20 percent less capable than men all the time.

The real measure of efficiency is found on the production charts. ~~and I do not need to tell you how many~~ Hundreds of records exist which prove ~~how false this is.~~ Women's production on jobs they have taken over from men (once the training period is over) is excellent, and there are plenty of instances where with experience they even exceed the men's record, one in particular coming from a Kansas flour mill.

In smaller flour mills, with few employees, I can imagine the women hired should be selected first for physical strength; they can then be used on more jobs. Training time is short on the usual jobs for which women first are hired; as they become more familiar with the machinery, with plant routine in maintenance and service, and watch the experienced employee perform his ~~multitudinous~~ several tasks, they will become more versatile themselves.

The Women's Bureau would like to see every establishment in the country have one entrance rate for the job, no matter whether men or women are hired for it. Where a learning period is necessary, women should not come in at any lower learning rate than ~~a man newly hired.~~ an inexperienced man.

Having unequal rates of pay for men and women only makes for trouble later on. Men and women are interchangeable now on too many jobs to make this practice tenable. The logic of it seems inescapable to me. ~~It also seems indisputable.~~ If she is kept on at a lower rate after her training period is over, and her production record compares favorably with the man's she replaced, the employer can be accused of "exploiting" women. No employer likes to have that word used about his employment practices. And the man who wants his job back after the war can complain that the woman is undercutting him. No woman feels she can be held responsible for this undercutting, although she recognizes the injustice done, more keenly than the man. He is a fellow worker beside, and she is proud of doing so well, his job when he went off to war.

On every side we are told that women are doing a most remarkable job in the factories, not only in increased production along many lines where they have always been considered superior to men workers, but in these new operations never considered suitable for women, and in these industries heretofore closed to them.

It is because their role as workers is as splendid as it is, in the industrial life of our country - efficient, dependable, responsive - that we find women a real mainstay back of the magnificent record industry is achieving today to keep our soldiers and sailors armed, fed, and clothed and the functioning of our home life moving in smooth channels.

I want to thank you all for this opportunity to speak to you and meet with you. For many years now I have watched the Women's Bureau volume of information grow. We have more and more interesting facts about wage-earning women in this country. In peace-time from ~~ten~~ 10 to twelve 12 million women were our interest; now there are over 15 million of them, in jobs so varied we cannot quite keep up, and we find an invitation like yours unexpected. It has enabled us to add to our store of data.

The Women's Bureau was created at the time of the last war. We are authorized "to formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment." And further, we are given the "authority to investigate and report... upon all matters pertaining to the welfare of women in industry."

We have a wealth of experience concerning the types of work women do effectively, and our staff members have been counseling individual employers as to more extended employment of women, through occupational surveys made of various war industries; these are available in bulletin form. The Women's Bureau has ~~redrafted its standards which it recommends for the most effective use of women, covering working conditions; we have issued these in a series of 10 leaflets, and they are all~~ aircraft, ammunition, cannon & small arms, and we are now making a survey of ship yards. also issued

~~willing~~ applicable to floors

a series of 10 pamphlets on standards for women's working conditions — most of which will be found applicable to the floor milling industry

I am very happy to be present at this particular convention of the Association of Operative Millers. As the flour millers of the country, the policies you plan will affect our far-flung armies and distant fleets, as well as workers in factories and in necessary civilian services here at home. You are in charge of producing ~~one of~~ what is perhaps the most important commodities in the daily lives of all of us - for to many millions, flour is the most important item of all food stuffs.

Return to Hyvaunder

NOTES on FLOUR MILLING INDUSTRY

May 1943

Fewer than 1000 mills produce all but 2 to 3 percent of the flour made in this country.

There are 7 large companies. General Mills is the largest in the world. Other well-known companies are Pillsbury, Commander-Larrabee, Flour Mills of America.

There are hundreds and hundreds of small flour mills in the country, in rural areas. They produce flour either for the "family trade" or for commercial bakeries. (Large mills do both.)

7/8 of the total number of mills employ fewer than 21 wage earners.

29percent of the workers are in establishments of under 21 wage earners.

28 percent of the workers are in establishments of over 100 wage earners.

States important in flour milling - Kansas, Minn., N.Y., Mo., Ill., Tex., Ind., Ohio Okla.

Soft wheat - for cake, pastries, crackers, pretzels, doughnuts & self-rising
N.Y., Mo., Ohio, Ind., Southeastern States

Hard spring wheat - all-purpose (bread) flour
Minn., No. Da., So. Da., Mont.

Hard winter wheat - all-purpose (bread) flour
Kan., Tex., Okla.

(An ad in the trade paper says Minn. has made more flour than any other State in the Union)

Flour is manufactured as it is ordered out by the buyer.
A buyer may buy flour now, thousands of pounds, but he sends his shipping directions to the miller who week by week turns out the flour called for in the buyer's shipping directions. Every once in a while the milling trade will say it is crying for shipping directions - the orders are on the books, but until the miller knows what the buyer wants each week he cannot have his mill in operation.

In some places, flour mills are already at practical capacity. Recent operations of commercial mills average between 70-75 percent of capacity (this is 10 to 15 percent greater than a year ago). Flour mills have been asked to produce 25 percent more flour than last year. In first quarter of 1943 20 percent more was turned out than in first quarter of 1942.

Flour is made up of protein, ash (mineral matter), starch

The milling process proper is a continuous process, is the manufacture of flour from selected and cleaned wheat, is largely a matter of separation.

There have been great changes in growing, harvesting, transportation and storage of wheat in recent years. The job of the miller is more difficult, as the mill-mix is made up of wheat berries varying widely as to hardness, moisture content, and effect of damaging environment [storage in elevators, I suppose, is meant].

The changes in flour milling processes are many, both mechanical and technical. Mixing is done more largely than ever by machines. Modern separators have lowered the ash content. Modern methods of scouring are very superior to earlier methods (removes all discoloring matter properly without injuring the kernel). Appearance of flour (whiteness) is a pretty good indication of its purity.

Women's usual jobs in the milling industry: from E. Wolfe schedules

Order

1. Sweeping and cleaning

2. Sack cleaners [only in mills producing for the commercial bakers, who return their cloth bags for refilling, and the sacks are cleaned by means of an air blower, holding them up to the suction]

4. Packer or filler [The women place the bag or sack in position on the carrier and this conveyor moves them on the women who fills them with flour, and the bags then go(on conveyor still) to be sealed by the women operating the sewing-closure automatic machines, a chain stitch or double-locked stitch. In an ad in the trade paper, a floating bag carrier was illustrated, that returns automatically to loading position as soon as the closed bag is removed. Taped-top closures are used for multi-wall paper bags, and plain sewed closures for paper, jute, or cotton bags, shown in a picture]

3. Loader [The loader places the filled bags into cars for shipment]

Laboratory work

Florence Burton's report on flour mills says that women have been used less in flour mills in the last decade as machinery has been installed, but this is not understood by RFN unless she means they are not used on as many operations as in the past. From all accounts, their total numbers must be increasing.

BLS report in 1941 (Bul. 712)

Packing, shipping, elevator, and warehouse workers - 3/5 of labor force.
Grain-mill workers and assistants - 1/2 of all production workers. 214 mills.

135 women out of total 7,271 mill employees (clerical excluded) - 1.85%
7 are skilled - 4 in group "foremen, working, receiving, production and packaging"; 3 are in "miscellaneous laboratory occupations"
111 are semiskilled - 7 are "misc. lab. occs.", 5 are "misc. occs. in production", 99 are in group "packers, check weighers, and sewers"
17 are unskilled - 14 are "general warehouse laborers", 3 are "misc. maintenance and service occs."

Earnings reported only for last two categories, in detail.

	No. of workers		Aver. hr. earnings		Aver. wk. hours		Aver. wk. earnings	
	M	W	M	W	M	W	M	W
			¢	¢			$	$
All occupations	7136	135	57.5	41.2	41.8	32.7	24.05	13.46
Skilled	1222	7	-		-		-	
Semiskilled	3495	111	56.7	38.6	42.2	31.4	23.91	12.10
Misc. lab. occs.	53	7	-		-		-	
Misc. prod.pkg.wrhs.	135	5	-		-		-	
Packers, etc.	1635	99	55.3	38.7	40.9	31.6	22.59	12.20
Unskilled	2419	17	52.6	44.3	39.8	38.1	20.90	16.86
Gen. warehouse labor	489	14	54.9	43.1	38.8	40.0	21.30	17.24
Misc. maint.&service	39	3	-		-		-	

Large mills pay better wages.

Great Lakes, Pacific and Northwest, higher wages than in other regions; lowest in Southeastern region.

Mills increased payrolls by last of 1941 from 2 to 20 percent.

43 percent of workers in flour mills were under union agreements in 1941 (nine-tenths of these are under A.F. of L.)

Millers National Federation, Sept. 1942 chart of manpower in Flour Milling Industry

352 mills covered (sample based on flour produced, but both large & small mills

Total employed - 21,613, of which 2,621 are women - 12 percent.
Of the 2621 women, 2268 were "clerical" (office, local sales, distribution)

273 women are mill employees, laboratory excluded. Represent 1.88% of all labor
6 are "supervisory" - head millers, warehouse foremen, sack room foremen, mill clerks, elevator superintendents, "other".
1 is "mechanical" - head millwrights, millwrights, engineers, asst. engrs., plumbers, sheet metal workers, firemen, electricians, beltmen, machinists, watchmen, painters, "other.
143 are skilled mill operating employees - second millers, machine tenders, grinders, smutters, bolters, packers, weighmen in mill elevator, mixers in mill elevators, sewers, "other."
58 are semiskilled mill operating employees - oilers, head loaders, batch mixers, spoutmen in mill elevator, yard clerks, sack handlers, "other."
65 are common labor - sweepers, loaders, truckers, janitors, dockmen, coopers, watchmen, stevedores, shovelers in mill elevator, samplers in mill elevator, "other".

80 women were classified in "laboratory."

Flour milling cities, in order of women employed: Minneapolis (660), Buffalo (280), Chicago (139), Kansas City (130), Louisville (70), Oklahoma City (55), Omaha (49), St. Louis (48), Los Angeles (44).

These employment numbers apply just to the mills covered in this survey; there may be more mills. Minneapolis, with 11 mills surveyed, tops the list of cities if the respective number of mills should be given, followed by Buffalo (6), Chicago (4), Kansas City (8), Los Angeles (4), Omaha and St. Louis (3 each), Louisville and Oklahoma City (2 each).

No information on wages or hours worked given on this chart.

Recent announcement about use of flour for industrial alcohol -

It is probable that idle milling capacity and a considerable part of the active mills of the country will be engaged in supplying granular flour to alcohol distillers, to develop synthetic rubber from industrial alcohol, and for use as a dehydrating agent in production of gunpowder. Later stories in the trade papers show this announcement was more wishful than practical, as it now appears there's still a lot to learn about granular flour and its place in the alcohol picture.

Poorly threshed wheat is expected this year due to scarcity of efficient harvesting equipment.

Nutrition, as such, has long been recognized by flour millers and it was being experimented with, by certain millers. Vitamins have been added to livestock feed for some time, but only recently have they been added to white flour. In 1940, there was a meeting of government, science, and milling and baking industry representatives, at which the government indicated its desire to increase nutritional qualities of flour and asked the two industries to do something. Both the millers and the bakers came forward promptly, pushing production and consumer purchase of "enriched" flour. There is now, of course, increased dependence on wheat flour as a major nutrition source, and the milling industry would like the government to make mandatory the enrichment of all family flour.

There have been large flour purchases by the Government for Lend-Lease.

16 flour milling companies and 11 mill executives and Millers' National Federation have been charged by the Federal grand jury in Chicago with conspiracy to fix prices for flour sold for family consumption through the medium of the Federation package differential schedule (it is charged that they agreed on prices for various grades, sizes and types of packages in different localities). The industry claims there are no price agreements in the milling industry; the package differential was set up as a guide to extra costs and handling packages, and before this was done, the whole industry was very disorganized; further, the package differential schedule "has been approved by numerous government agencies over a period of many years and its use was specifically authori zed no longer ago than Jan. 2, 1943, in an order issued by the O.P.A."

A Liberty ship has been named after John Sargent Pillsbury, former governor of Minnesota and flour miller. It was completed in 27 days, on March 19, 1943, at Terminal Island, Calif.

NOTES - 6

Notable women

Miss Betty Sullivan, of Minneapolis, first discovered a germ substance "glutathione." It is present more dominantly in spring wheat flour because this wheat is harder and germ harder to extract. This substance is believed to alter the characteristics of dough, in some ways perhaps inducing more rapid fermentation.

She is chairman of the executive committee of the American Association of Cereal Chemists.

Miss Sally Woodward, of Minneapolis. Public Services department of General Mills, Inc.

Mrs. Ann M. Hillelson, on Pillsbury Flour Mills Co. grocery products sales staff in Kansas City, is the company's first woman merchandiser.

Mrs. Pauline Girard is Wheat Flour's Institute* eastern representative. She recently spoke about vitamin-rich bread and yeast breads, at Orono, Maine. She gives demonstrations and talks with nutritional leaders.

Mrs. Greenhaw, home economist with Kelly-Erickson Co. of San Francisco. "While the laboratory has for years offered a career to women it is probable many more of them will work with the tools of chemistry in coming months." A picture shows her testing dough properties. [She really "belongs" to the bakers, not the millers - and there are probably many women in this capacity in the commercial bakeries of the country]

* The head of the Nutrition department of the Wheat Flour Institute (part of Millers National Federation) is a woman.

TABLE VI

SUMMARY OF MANPOWER AGE AND STATUS
AS OF SEPT. 15, 1942 IN THE FLOUR MILLING INDUSTRY

	Number Mills	Number Female Employees	NUMBER OF MALE EMPLOYEES: Under 30 Single or Childless	Under 30 Have Minor Children	30 to 45 Single or Childless	30 to 45 Have Minor Children	45 to 60 Number	Over 60 Number	Total Number Male Employees
Total U. S. Reporting Mills:									
Number Employees	352	2,621	1,958	1,505	1,721	6,188	6,096	1,524	18,992
Percentage - Male			10.3%	7.9%	9.1%	32.6%	32.1%	8.0%	100.0%
Cities - 2 or more mills:									
Minneapolis, Minn.	11	660	174	137	124	398	741	237	1,811
Kansas City, Mo.	8	130	119	111	148	294	280	41	993
Buffalo, N. Y.	6	280	198	97	161	543	616	99	1,714
Wichita, Kansas	5	39	21	12	33	183	108	6	363
Portland, Oregon	5	14	7	7	16	49	109	34	222
Salina, Kansas	5	27	7	7	8	251	55	5	333
Los Angeles, Calif.	4	44	9	12	32	101	109	34	297
Chicago, Illinois	4	139	46	19	37	119	109	23	353
Denver, Colo.	4	17	8	7	20	65	45	18	163
Hutchinson, Kansas	3	8	13	13	17	41	62	11	157
Newton, Kansas	3	8	48	17	4	36	49	12	166
Spokane, Wash.	3	23	34	32	29	73	73	11	252
Seattle, Wash.	3	34	4	5	18	50	93	30	200
Omaha, Nebr.	3	49	32	23	23	64	71	25	238
St. Louis, Mo.	3	48	37	15	25	41	58	18	194
Great Falls, Mont.	2	31	10	10	5	68	27	2	122
St. Joseph, Mo.	2	2	9	15	12	45	26	3	110
Red Wing, Minn.	2	4	1	2	2	6	44	16	71
Abilene, Kansas	2	11	1	9	11	39	24	4	88
McPherson, Kansas	2	8	8	7	3	36	20	3	77
New Ulm, Minn.	2	13	13	9	9	38	82	33	184
Topeka, Kansas	2	9	21	8	13	52	40	9	143
Atchison, Kansas	2	23	13	20	29	64	62	15	203
Arkansas City, Kansas	2	6	22	17	5	61	32	2	139
Freeburg, Ill.	2	0	5	1	4	11	21	7	49
Tacoma, Wash.	2	21	28	14	36	71	107	28	284
Louisville, Ky.	2	70	33	26	32	54	70	15	230

TABLE VI - (Page 2)

SUMMARY OF MANPOWER AGE AND STATUS
AS OF SEPT. 15, 1942 IN THE FLOUR MILLING INDUSTRY

	Number Mills	Number Female Employees	NUMBER OF MALE EMPLOYEES						
			Under 30		30 to 45		45 to 60	Over 60	Total Number Male Employees
			Single or Childless	Have Minor Children	Single or Childless	Have Minor Children	Number	Number	
Cities - 2 or more mills:									
El Reno, Okla.	2	7	11	8	15	37	30	4	105
Oklahoma City, Okla.	2	55	24	24	10	57	47	7	169
Yukon, Okla.	2	11	11	5	6	36	39	9	106
Ogden, Utah	2	24	15	13	10	91	56	8	193
Roanoke, Va.	2	10	15	19	10	42	31	9	126
Johnson City, Tenn.	2	6	8	10	8	39	10	3	78
Davenport, Iowa	2	9	20	13	18	32	39	9	131
Sherman, Texas	2	7	13	12	7	27	19	0	78
Minot, No. Dak.	2	5	5	6	2	22	23	4	62
Grand Forks, No. Dak.	2	17	28	10	11	67	63	8	187

TABLE VII

SUMMARY OF MANPOWER AGE & STATUS BY JOB CLASSIFICATIONS
AS OF SEPTEMBER 15, 1942 IN THE FLOUR MILLING INDUSTRY
(352 Mills)

Job Classification	Number Female Employees	NUMBER OF MALE EMPLOYEES						
		Under 30		30 to 45		45 to 60	Over 60	Total Number Male Employees
		Single or Childless	Have Minor Children	Single or Childless	Have Minor Children	Number	Number	
MILL								
Supervisory Employees	6	21	35	93	349	535	164	1,197
Mechanical Employees	1	30	42	70	312	599	188	1,241
Skilled Mill Operating Employees	143	402	416	460	1,865	1,723	279	5,145
Semi-skilled Mill Operating Employees	58	151	143	147	567	552	154	1,714
Common Labor	65	802	548	440	1,508	1,251	366	4,915
Total Mill Employees	273	1,406	1,184	1,210	4,601	4,660	1,151	14,212
LABORATORY	80	81	35	49	137	65	7	374
OFFICE and LOCAL SALES & DISTRIBUTION	2,268	471	286	462	1,450	1,371	366	4,406
Total All Employees	2,621	1,958	1,505	1,721	6,188	6,096	1,524	18,992

Supervisory Employees	Mechanical Employees		Skilled Mill Oper. Emp.		Semi-Skilled Mill Oper. Emp.	Common Labor	
Head Millers	Head Millwrights	Firemen	Second Millers	Weighmen-Mill Elev.	Oilers	Sweepers	Dockmen
Warehouse Foremen	Millwrights	Electricians	Machine Tenders	Mixers - " "	Head Loaders	Loaders	Coopers
Sack Room Foremen	Engineers	Beltmen	Grinders	Sewers	Batch Mixers	Truckers	Watchmen
Elev. Superintendents	Asst. Engineers	Machinists	Smutters	Other Skilled M.O.E.	Spoutmen - Mill Elevator	Janitors	Stevedores
Mill Clerks	Plumbers	Watchmen	Bolters		Yard Clerks	Shovelers-Mill Elev.	
Other Supv. Employees	Sheet Metal Workers	Painters	Packers		Sack Handlers	Samplers-Mill Elev.	
		Other Mechanical Employees			Other Semi-Skilled M.O.Emp.	Other Common Labor Employees	

OCCUPATIONS

HOTELS & RESTAURANTS

Herald Tribune
New York, N.Y.
April 27, 1943.

WOMEN FILLING MAN-SIZE JOBS IN CITY'S HOTELS

They're Taking Over Work as Doormen, as Bellhops and Even as Bartenders

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"Strictly a man's job" is a phrase that is becoming strictly passe in New York hotels and clubs as more and more women take over jobs as bellhops, bartenders and even doormen, it was learned yesterday.

The first woman doorman at a New York hotel is believed to be Miss Marion Cayer, a twenty-four-year-old brunette, who has the job at the Hotel Brewster, 21 West Eighty-Six Street.

Miss Cayer, who has been on the job two weeks and plans to remain for the duration and maybe after, does everything from hailing cabs to carrying in luggage which is not too heavy. And, according to her, very little of it is too heavy.

Dressed in a trim blue and gray uniform with tan epaulets and wearing a regular doorman's hat, Miss Cayer looked the model of efficiency yesterday as she opened cab doors and greeted the emerging guests.

Despite the frequent assertions in print by officials of the Bartenders' Union Local 15, that woman's place is definitely not behind a bar, there are two members of the distaff side busily and happily mixing drinks for reportedly contended customers in the mezzanine cocktail lounge at the Astor. The two, Miss Helen Trenkler and Mrs. Lillian Desmond, enetered the bartending domain in New York hotels, heretofore sacred to men, less than two weeks ago. But according to one of their instructors, Guy Cappello, who has been a bartender for five years, the two women are apt pupils.

Mrs. Desmond, who was on duty yesterday afternoon, is a former long-distance operator. She said tending bar is much more difficult than her old job because it "takes a lot more brainwork to remember all the measurements." Mrs. Desmond, who is 5 feet tall and whose chin barely clears the sparkling glasses on the top of the bar, remarked, however, that she thought bartending would be a lot more exciting, mentally." Mrs. Desmond and Miss Trenkler both work at the service bar.

That the number of women bartenders will probably increase as the war progresses was reluctantly admitted yesterday by James J. Bohan, the bartenders' representative for the Hotel and Club Employees Union, Local 6, who reiterated that we " (bartenders) are definitely against it because, among other reasons, there is so much vulgar language around a bar which a lady shouldn't hear."

Girl bellhops are another result of the wartime shortage of men, it was disclosed yesterday, and there are at least fifteen of them in hotels throughout the city, according to officials at Local 144 of the Hotel and Front Service Employees American Federation of Labor.

At least six girl bellhops are on duty at the Henry Hudson Hotel, 353 West Fifty-Seventh Street, where several women have also taken jobs as resident managers and room clerks. One bellhop, Miss Dorothy Carroll, nineteen years old, maintains that her work differs little from that of the man bellhop, except that she has to remember to say "girl,Sir" in answering a male guest's ring.

"Of course, we don't carry the real heavy luggage," Miss Carroll added, "and

most of the men insist on carrying their own suitcases when they see we're not boys."

According to reports received both by the front service and other unions, the switchover from male to female in such posts as elevator operators, cooks and clerks is still proceeding apace. To take but one example, the number of women elevator operators in New York Hotels had jumped from fifty to at least 1,000.

OCCUPATIONS + INDUSTRIES - INSURANCE

December 30, 1940.

Mrs. Anna H. Settle, Attorney-at-Law,
Kentucky Home Life Building,
Louisville, Kentucky.

My dear Mrs. Settle,

I have your letter of December twentieth telling of your plan for registering the special skills of Altrusans in connection with the Defense Program, and requesting a copy of the form used by the Government for the registration of skills.

If you are referring to the project sponsored by the United States Civil Service Commission, under the supervision of Mr. James C. O'Brien and known as the National Roster of Scientific and Specialized Personnel, I suggest that you write directly to him, informing him of your project and asking if you could be sent a copy of the forms that are being used in that Government survey. I am told that there is a form for voluntary services as well as the one for scientifically trained people eligible for remunerative work, that the project is not being conducted as an employment service, but that as it is possible that some Altrusans may already be on that roster it would be well for you to communicate with Mr. James C. O'Brien so that he could advise you as to the best procedure for your membership. As this division of the Civil Service Commission is operating in conjunction with the Advisory Commission of the National Council of Defense, possibly you may wish also to write to Mr. Sidney Hillman, the member of this Commission concerned with the question of available skills.

You may find it of interest to write to the two following Government agencies in Washington, asking for copies of forms which they have prepared:

Washington Post, Nov. 1940

WOMEN GAINING AS UNDERWRITERS

The 4,000 women life underwriters in this country have set up life insurance plans for 956,000 persons, providing protection aggregating $2,375,000,000, it is disclosed by a survey just completed by the Women's Committee of the National Association of Life Underwriters to determine the achievements of women in the life insurance field.

The insurance plans written by these women underwriters provide protection for more than 3,000,000 individuals, according to Miss Beatrice Jones, who was chairman of the committee under whose direction the survey was made through questionnaires.

A composite picture of the more successful women life underwriters shows her to be about 46 to 47 years of age, came into the business in her late thirties, has about 250 clients of whom approximately 43% are men, and writes about 34 cases a year.

OCCUPATIONS - LAUNDRIES & DRYCLEANING

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

7/3/43

WOMEN IN THE DRYCLEANING INDUSTRY

The drycleaning industry needs women workers to help relieve a labor shortage that has grown more and more critical as men employees have gone into the armed forces and into war plants. The 1939 Census showed that 40 percent of cleaning plant employees were women. Women are especially adaptable to cleaning plant work and can well take over an increasing percentage of the jobs formerly held by men. They do not have to leave their homes and families to enter this field, because the 14,000 plants of the industry are scattered around in all the moderate and large towns and cities of the United States.

Jobs for Which Women Are Needed:

Cleaning plants need women in the marking department. Here garments are examined for rips, tears, and unusual conditions as they come from the customers, and are marked with identification tags. Following this, they are sorted into light-weight and heavy garments, and light and dark colors.

Women are valuable assistants in the spotting department and in a very short time learn to remove simple spots and stains. With this assistance, the highly skilled and experienced spotters can devote all their time to the really difficult jobs.

The finishing or pressing of dresses has always been handled by women, and now they are taking over much of the work on men's garments too. There is very special equipment in the finishing departments, quite different from the electric irons used at home for ironing and pressing. Although steam-electric irons are part of the equipment of the finishing department, the tendency during these wartime days is to eliminate as much hand work as possible and to use the various types of machines to the fullest extent.

If a woman is mechanically minded and is strong physically, many plants would like to employ her in the drycleaning department where large machines are used for the cleansing of garments in solvent and special soaps. Some plants are using women on their trucks to pick up and deliver garments. Plants that have branch stores place women in charge.

Training and Working Conditions:

For these and many other types of work in a cleaning plant, the inexperienced woman can be trained quickly and easily. Most of the work requires standing, but with proper fitting shoes and comfortable

clothing the woman of average physical stamina can handle it well.

Hours and wages conform to state and federal laws and to local customs. Most plants are now operating 48 hours a week. Many pay time and a half for overtime. Either full-time or part-time employment can be obtained.

Usually the busiest seasons are in April, May, and June, and again in September and October. Now, however, it seems to be a case of one continuous peak season, especially in communities where large amounts of uniforms for soldiers or garments for workers in war plants must be handled.

The facts contained in this memorandum were furnished by the National Association of Dyers and Cleaners, Silver Spring, Maryland. Questions on this industry may be addressed to them.

This material was compiled in connection with the program to promote full use of womanpower in necessary civilian jobs which is being sponsored by the Office of War Information and the War Manpower Commission with the cooperation of national magazines.

7/3/43

ADVANCE RELEASE ---- ADVANCE RELEASE

OFFICE OF WAR INFORMATION

Advance Release: For Friday Afternoon Papers, July 30, 1943

Howard: 72006 OWI-2240

More than 100 laundries in various parts of the country have been forced to close during the past three months, bringing the year's total of these shut-downs to about 600, the Office of War Information reports.

On the remaining laundries has fallen the burden, not only of the work normally done by these 600 casualties, but of increases in new service requests ranging as high as 200 percent. Typical examples are Springfield, Mass., where 100,000 men's shirts are being received weekly as against 50,000 a year ago, and New York City which reports from 150 to 200 percent more work -- and 35 percent less than the normal number of employees.

That is why the shirt-a-day man must have at least 28 shirts in his wardrobe to take care of the two-week gap between sending them to and receiving them back from the laundry -- why a Houston, Texas, hotel now provides its guests with "finger" towels, half the size of a regular face towel -- why so many restaurants which used to be stickler for fresh table cloths for each guest, now serve their meals on bare tables and slip a paper napkin into the customer's lap.

It is also the reason why the War Manpower Commission has required that, if a laundry is to be classified as "locally needed" and get help from the United States Employment Service, it must agree to: eliminate handironing of finishing of any garment if mechanical facilities are available; eliminate all starching or sizing of flat work; limit customers to one grade in the starching of shirts and other apparel; eliminate folding of articles in damp or wet wash bundles; request hotels and lodging houses to change bed linen not oftener than once a

week for any one guest and limit guests to one face and one bath towel per day; and request restaurants to use an average of no more than one tablecloth per day per meal period.

Adherence to these and certain other provisions of the War Manpower Commission makes a laundry eligible for referral of workers by the U.S. Employment Service and assures it of protection from labor piracy and stabilization of their existing labor force.

The reasons why the laundries find themselves in their present plight vary in different parts of the country, according to the Office of War Information.

Citing figures from the American Institute of Laundering, OWI points out that despite an increase in the number of laundry employees -- 26,000 more today than before Pearl Harbor -- the immediate cause of the difficulties in most areas is shortage of labor. This is particularly true of experienced labor, especially in war production centers where many long-term employees have left the laundries for better-paying jobs in war plants. And inexperienced labor, according to one estimate, cuts output from 10 to 20 percent.

But back of this shortage are other wartime conditions which have made labor insufficient even though there is more of it:

Thousands of women who formerly did their laundry at home, have taken full-time war jobs and must now send their laundry out.

Thousands of former private laundresses have also gone into war jobs, leaving their customers to shift for themselves.

Home laundry equipment production is at a standstill, further complicating the doing of laundry at home.

Millions of workers in war production plants have more and dirtier clothes to be laundered.

Millions of workers have more clothes and want to change them oftener.

Some military encampments have no laundry facilities of their own and must use those of the neighboring town.

Wages paid to laundry workers are way below those paid in war production plants.

It is the combination of all these circumstances, together with the lack of experienced labor, which has brought about the hardships not only of laundries but of the customers which they serve.

The New Jersey Laundryowners Association, representing most of the 253 laundries in the state, reports the closing of three laundries, one a large establishment in Jersey City, in the three months previous to July. Delivery time at the remaining laundries is from 10 days to two weeks. This is one of the areas suffering from a real labor shortage, having employed some 13,000 workers before Pearl Harbor and now able to obtain only 9,000. To man the plants properly, 13,500 are needed, but the war industries located in this state have proved more attractive to workers. One laundry reports 150 workers as against 275 a year ago and that it has had to cut its former 44 routes to 22.

Springfield, Mass., and New London, Conn., both blame the Army for not supplying its own laundry facilities. Army khakis, they say, now fill their washing machines, leaving almost no space for civilian sheets, shirts and chemises. Summer residents of Cape Cod can no longer get their socks, handkerchiefs and napkins done by the local laundries; such inconsequentials, the laundries agree, can be done at home. Hartford, Conn., has become editorially disturbed over the prevalence of "B.O." in its many war plants where workers sweat hard but can't change their clothes every day.

In San Diego, an important aircraft center, so much clothing soiled by grease accumulated in one laundry that spontaneous combustion resulted. The fire caused a loss estimated at more than $32,000. One of the important causes of absenteeism among women on the bomber production line was found to be time off taken to get laundry done. In peacetime, San Diego laundries employed 3,000 workers. Today they have 2,500 and could use 5,000.

An appeal to housewives with some extra time on their hands was made in three full columns of newspaper advertising space by the laundries of Seattle, Wash. Under the heading "Your Laundry Has GONE TO WAR!", housewives were begged

to "Serve Your Community" in part time, part week, day or swing shift work.

In Chicago, 10 laundries have closed. St. Louis laundries will accept no less than 20 pounds per bundle, and this must include only white and fast color cottons and linens. Handkerchiefs, napkins, dilies, and soft collars are being returned un-ironed and they are considering rationing the number of men's shirts they will accept. In Hutchinson, Kansas, the naval air station commander has appealed to housewives to do their own washing so that commercial laundries can take care of his men's laundry. Officers' wives are requested to do their husband's shirts, and cadets are asked to make the same request of their girl friends.

Washington, D. C., with its war-swollen population, is one of the hardest hit of all cities. As one Washington news paper put it: "You don't have to be a native Washingtonian to get your laundry done -- but it helps." The Capital's laundries claim to have lost from 20 to 25 percent of their efficiency, one firm reporting labor turnover of 200 percent since the first of the year and another, 10 percent in a week. No new customers are taken. As a result there is the story of the six-day-a-week Government worker who can get no laundry to accept her patronage, can buy no washing machine or hand-wringer, and who does her entire household laundry by hand on Sundays.

A special drive launched by the United States Employment Service through Negro theatres, churches and on the radio, brought the Washinton laundries 250 workers. They claim to need 800. And to add to their difficulties, when a spell of the famous Washington summer weather descends, many of their workers stay at home.

About 75 percent of all commercial laundry workers are women, according to the American Institute of Laundering. Thus it might seem that all that is necessary to restore laundry service to its former efficiency would be for more women to take jobs in laundries. However, statistics show that of the 25 percent of employes who are men, 47.7 percent are subject to the draft and most of their

jobs have not been considered suitable for women. But at least one of these traditionally men's jobs is being filled by women in some laundries, that of routeman, or driver salesman. This job involves driving a delivery truck to collect and deliver laundry, soliciting business, collecting bills, reporting complaints and unloading bundles at the plant.

At least 32 other types of laundry jobs can be filled by women. Many of them are even considered suitable for women with some physical handicap such as deafness, loss of fingers or eye, or with certain deformities such as hunchback or crippled legs or hands. Older women, too, are acceptable for at least 75 percent of these jobs, including such positions as marker or classifier, seamstress, tumbler or drier operator, shake-out and starch operator, starch maker, flatwork feeder and folder, hand ironing operator, handkerchief ironer, blanket and curtain operators, checker or distributor; department head, foreman or supervisor; telephone operator and bookkeeper.

William S. Kelley, of the Public Relations Committee of the Laundry Owners' Assn. of San Diego, estimates that one woman in a laundry can do seven times as much work, due to the use of power machinery, as a woman doing laundry at home. Without laundry service, Mr. Kelley points out, war workers will have to take time off to do their own and will be only one-seventh as efficient.

Serial No. R. 1608

[From the MONTHLY LABOR REVIEW (January 1944) of the Bureau of Labor Statistics, United States Department of Labor]

Wage Rates in Power Laundries, Spring of 1943[1]

Summary

OPERATIVES in power laundries were among the lowest-paid urban workers in the spring of 1943. The laundry industry employs large numbers of women workers, and most of the work requires little training or experience. Median figures representing 36 large cities covered in a study by the Bureau of Labor Statistics reveal an average of 53.5 cents per hour for male extractor operators and an average of 66.5 cents for male washers. Women workers employed as catchers, feeders, and shakers averaged approximately 37 cents per hour, while bosom-press operators, collar- and cuff-press operators, and markers averaged from 41.0 to 42.5 cents. Wages were highest on the Pacific Coast, where some workers were paid more than $1.00 per hour. In the Southern cities, where wages were lowest, women in the least-skilled occupations averaged less than 25 cents per hour, and wages below 15 cents per hour were occasionally encountered.

Because of the low level of wages in this industry and the resulting serious shortage of labor, special regulations were issued by the National War Labor Board and the Director of Economic Stabilization during 1943 to liberalize wage policy as applied to the lowest-paid workers. Wage increases resulting from these regulations came, for the most part, after the period covered by the Bureau's study and are not reflected in the figures reported.

Characteristics of the Industry

Considering total receipts, employment, and pay rolls, power laundries represented in 1939 by far the most important of the service industries that came within the scope of the United States Census of Business. Although no more recent information is available it is likely that with the increased employment of women and the consequent growing dependence on commercial laundry service the relative importance of power laundries among the service industries has grown.

Power laundries are typically concentrated in the larger cities. In 1939 nearly one-fifth of all the power laundries in the United States were in the 14 cities having a population of more than 500,000. These cities accounted for about one-third of all employment in power laundries. It is significant in appraising the representativeness of the data presented below that, with the exception of New York City, all of the cities in this largest-size group are included. Also included is a pro-

[1] Prepared in the Bureau's Division of Wage Analysis by Joseph M. Sherman under the supervision of Harry Ober.

portionately smaller but substantial group of cities with a population from 100,000 to 500,000, located in all regions of the United States.

From the standpoint of form of business organization, a major proportion of the power-laundry business is carried on under corporate ownership. Corporations represented only two-fifths of the total number of establishments in 1939, but these accounted for seven-tenths of the total labor force. Individual proprietorships, while representing over two-fifths of the number of power laundries, accounted for only somewhat over one-sixth of the total employment.

The labor force in power laundries is composed of relatively unskilled workers. The operations and general conditions of work in power laundries are akin in many respects to mass-production manufacturing industries. Working conditions tend to be somewhat unpleasant, especially in the summer. The fact that laundries normally employ a large proportion of women workers, and that no particular aptitude or training of applicants is required, made it possible before the war to obtain sufficient labor without difficulty. Recently, however, when many war industries have been competing for the type of labor employed in laundries, the manpower problem has become acute in the industry.

Scope and Method of Survey

The information for each city covered by the survey is based on a representative sample of power laundries with nine or more employees. In the main the wage data refer to a pay-roll period in the spring of 1943; in 23 of the 36 cities for which figures are presented, the data pertain to an April pay-roll period, in 1 to a May period, and in 3 to a June period. Of the remaining 9 cities, the information for 7 is for a July period, and for 2 a January period.

The wage data presented consist of straight-time average hourly earnings.[2] Premium overtime payments and shift differentials have been eliminated. Although most laundry workers covered were paid on a time basis, such incentive earnings as were paid are reflected in this report. Most of the relatively small number of workers who did receive incentive payments were bosom-press and collar- and cuff-press operators. Some feeders were also found on an incentive basis. Incentive methods of pay were more common in the southern than in the northern communities. Laundries in Memphis commonly reported incentive payments. Significant numbers of incentive workers were also found in Baltimore, Washington, Jacksonville, Richmond, Norfolk, Philadelphia, Pittsburgh, and Cleveland.

Approximately half of the laundries studied had contracts with unions. Unionization was most prevalent among the large establishments and in the large cities. All the laundries studied in Philadelphia, San Francisco, and Seattle were unionized. Two-thirds or more of the establishments included in the survey in Milwaukee, Chicago, Cleveland, Detroit, Kansas City, Minneapolis-St. Paul, Pittsburgh, Portland, Rochester, and Scranton–Wilkes-Barre were operating under union agreements. Few of the establishments scheduled in the southern localities were unionized. Union agreements were rare or entirely

[2] Besides the general average earnings for all workers in the occupation and city, the accompanying table shows the average hourly earnings in the laundries with the highest and lowest earnings for the occupation. These are not the earnings of the lowest and highest paid individual workers in the area but the average earnings of all workers in the establishment.

lacking among the establishments studied in Baltimore, Washington, Dallas, Denver, Grand Rapids, Houston, Indianapolis, Jacksonville, Norfolk, Oklahoma City, Omaha, Richmond, St. Louis, Savannah, and San Diego.

The data presented in this article were obtained by trained field representatives of the Bureau of Labor Statistics from pay-roll and related laundry records. The workers were classified, in each laundry visited, in accordance with standard written occupational descriptions to assure maximum comparability from one establishment to another.

Average Hourly Wage Rates

The eight key jobs selected for study include two classifications (extractor operators and washers) in which men are employed almost exclusively and six (catchers, feeders, shakers, bosom-press operators, collar- and cuff-press operators, and markers) in which women are generally employed. Three distinct levels of rates may be discerned in comparing the eight occupational classifications. In general, extractor operators and washers, the occupations typically employing men, were paid appreciably higher rates than other occupations. Among the other six occupations the catchers, feeders, and shakers, who work as a crew and frequently alternate from one operation to the other, received the lowest rates; only insignificant differences in rates existed among these lowest-paid jobs. With minor exceptions, the press operators (bosom, and collar and cuff) and the markers were receiving rates intermediate between those of the flat-work operators and extractor operators and washers; in general, there was little variation in wage rates among these three operations.

Median average hourly earnings for the eight occupations, by region, are presented in table 1. Although no attempt has been made, in arriving at these medians, to assign different weights to the individual cities, and although the number of cities in some regions is relatively small, the figures are useful for purposes of rough comparison. Extractor operators and washers are represented by median averages of 53.5 cents and 66.5 cents per hour. Female catchers, feeders, and shakers all averaged approximately 37 cents, while median earnings in the remaining 3 jobs employing women workers ranged from 41.0 cents to 42.5 cents. Details for individual cities appear in table 2.

TABLE 1.—*Median Average Hourly Earnings in Selected Occupations in Power Laundries*[1] *in 36 Areas, Spring of 1943*

Region	Extractor operators, male	Washers, male	Catchers, female	Feeders, female	Shakers, female	Bosom-press operators, female	Collar- and cuff-press operators, female	Markers, female
Total, 36 areas	$0.535	$0.665	$0.370	$0.375	$0.365	$0.425	$0.410	$0.410
East	.585	.680	.370	.380	.370	.445	.420	.425
South	.410	.490	.240	.230	.230	.300	.270	.330
Middle West	.570	.690	.400	.410	.390	.470	.430	.440
Mountain and Pacific	.765	.945	.500	.490	.490	.570	.530	.560

[1] Excludes laundries with fewer than 9 employees.

TABLE 2.—*Average Straight-Time Hourly Earnings in Selected Occupations in Power Laundries [1] in Specified Areas, Spring of 1943 [2]*

Area	Extractor operators, male			Washers, male			Catchers, female			Feeders, female		
	Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages	
		Lowest	Highest		Lowest	Highest		Lowest	Highest		Lowest	Highest
East:												
Baltimore	$0.54	$0.40	$0.70	$0.63	$0.46	$1.00	$0.33	$0.25	$0.48	$0.33	$0.25	$0.48
Boston	.63	.40	.88	.62	.54	.89	.38	.31	.46	.38	.31	.48
Buffalo [3]	.66	.60	.71	.68	.60	.96	.51	.44	.65	.49	.42	.66
Philadelphia [4]	.53	.40	.65	.72	.48	1.00	.37	.35	.50	.37	.35	.45
Pittsburgh	.65	.62	.70	.81	.70	1.06	.36	.34	.47	.36	.34	.47
Rochester	.69	.67	.72	.76	.72	.83	(5)	(5)	(5)	.46	.43	.50
Scranton-Wilkes-Barre [3]	.54	.31	.68	.68	.60	.91	.37	.30	.41	.39	.30	.41
Washington [3]	.51	.38	.88	.62	.42	1.20	.38	.33	.48	.38	.33	.48
South:												
Atlanta	.31	.26	.44	.36	.34	.48	.18	.16	.22	.18	.16	.21
Birmingham	.31	.28	.37	.37	.20	.50	.21	.16	.22	.21	.16	.24
Dallas	.36	.22	.51	.47	.33	.80	.26	.17	.32	.27	.17	.46
Houston	.42	.35	.78	.56	.48	.69	.26	.21	.31	.26	.18	.37
Jacksonville [6]	.42	.35	.53	.52	.34	.78	.21	.13	.30	.20	.16	.30
Memphis	.34	.16	.42	.39	.22	.55	.20	.13	.28	.19	.13	.25
New Orleans	.35	.25	.47	.49	.25	.75	.22	.18	.29	.22	.18	.29
Norfolk [6]	.49	.39	.58	.53	.31	.83	.29	.20	.33	.25	.22	.33
Oklahoma City	.41	.37	.60	.65	.60	.74	.29	.26	.32	.30	.28	.32
Richmond [3]	.44	.30	.62	.48	.41	.67	.25	.20	.30	.24	.18	.30
Savannah [3]	.49	.40	.58	.49	.43	.63	.24	.17	.31	.23	.17	.31
Middle West:												
Chicago	.64	.47	.91	.72	.48	1.18	.42	.39	.56	.42	.38	.55
Cincinnati	.51	.45	.56	.68	.50	.93	.41	.40	.48	.40	.38	.48
Cleveland [6]	.64	.50	.94	.77	.55	1.13	.41	.35	.61	.41	.35	.63
Detroit	.70	.50	.88	.87	.60	1.25	.42	.40	.55	.43	.40	.55
Grand Rapids	.59	.46	.65	.76	.63	.87	.37	.32	.40	.41	.37	.43
Indianapolis [3]	.50	.40	.67	.69	.50	.80	.40	.27	.56	.41	.25	.53
Kansas City	.45	.40	.63	.58	.47	.74	.30	.30	.32	.31	.30	.33
Milwaukee [3]	.71	.50	1.01	.88	.62	1.38	.42	.35	.54	.42	.35	.54
Minneapolis-St. Paul	.56	.37	.73	.69	.59	.89	.39	.35	.40	.39	.35	.41
Omaha	.57	.39	.73	.62	.33	.88	.34	.25	.44	.33	.23	.44
St. Louis	.44	.37	.55	.53	.41	.69	.32	.25	.40	.32	.25	.38
Mountain and Pacific:												
Denver [4]	.46	.40	.55	.63	.55	.94	.35	.32	.36	.35	.33	.36
Los Angeles	.67	.53	.85	.77	.55	1.04	.46	.42	.92	.46	.42	.55
Portland, Oreg	.84	.75	.90	1.01	.93	1.10	.48	.47	.51	.48	.46	.65
San Diego [7]	.69	.65	.78	.88	.80	1.04	.61	.49	.90	.50	.41	.55
San Francisco	.85	.66	1.13	1.02	.83	1.25	.52	.48	.55	.53	.40	.63
Seattle	.94	.81	1.00	1.13	1.04	1.50	.55	.51	.58	.54	.51	.58

See footnotes at end of table.

TABLE 2.—*Average Straight-Time Hourly Earnings in Selected Occupations in Power Laundries [1] in Specified Areas, Spring of 1943 [2]*—Continued

Area	Shakers, female			Bosom-press operators, female			Collar- and cuff-press operators, female			Markers, female		
	Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages		Average hourly earnings	Establishment averages	
		Lowest	Highest		Lowest	Highest		Lowest	Highest		Lowest	Highest
East:												
Baltimore	$0.34	$0.28	$0.48	$0.40	$0.25	$0.57	$0.40	$0.25	$0.59	$0.38	$0.28	$0.57
Boston	.37	.30	.45	.44	.36	.64	.42	.36	.50	.42	.31	.50
Buffalo [3]	.44	.40	.64	.65	.58	.67	(5)	(5)	(5)	.55	.42	.66
Philadelphia [4]	.37	.35	.50	.49	.38	.63	.46	.35	.61	.42	.37	.53
Pittsburgh	.36	.34	.47	.41	.27	.51	.41	.27	.51	.43	.37	.54
Rochester	.46	.43	.48	.64	.53	.89	.51	.41	.53	.48	.43	.52
Scranton-Wilkes-Barre [3]	.38	.34	.41	.45	.35	.67	.46	.40	.66	.40	.30	.48
Washington [3]	.36	.33	.48	.43	.35	.61	.42	.35	.53	.47	.36	.68
South:												
Atlanta	.18	.13	.35	.26	.19	.36	.22	.18	.30	.25	.22	.43
Birmingham	.21	.15	.22	.24	.16	.35	.24	.16	.35	.30	.15	.50
Dallas	.24	.17	.38	.27	.18	.45	.29	.18	.45	.35	.27	.43
Houston	.25	.18	.32	.32	.20	.48	.27	.20	.35	.34	.24	.48
Jacksonville [6]	.20	.13	.39	.24	.19	.32	.26	.20	.32	.36	.31	.44
Memphis	.20	.13	.25	.30	.14	.43	.25	.14	.43	.30	.15	.40
New Orleans	.20	.18	.34	.32	.25	.43	.29	.24	.36	.28	.15	.36
Norfolk [6]	.25	.20	.33	.31	.25	.44	.27	.22	.32	.33	.22	.43
Oklahoma City	.29	.25	.30	.33	.30	.40	.32	.28	.36	.36	.28	.46
Richmond [3]	.26	.18	.30	.31	.22	.45	.33	.21	.41	.31	.25	.38
Savannah [3]	.23	.17	.33	.23	.21	.27	(5)	(5)	(5)	.37	.34	.68
Middle West:												
Chicago	.42	.40	.62	.54	.44	.79	.55	.40	.79	.52	.41	.83
Cincinnati	.40	.40	.45	.48	.40	.70	.43	.40	.48	.44	.40	.53
Cleveland [6]	.40	.35	.55	.57	.40	.82	.58	.40	.85	.49	.38	.75
Detroit	.41	.40	.46	.51	.30	.81	.51	.40	.81	.46	.40	.65
Grand Rapids	.37	.31	.40	.44	.36	.62	.42	.40	.45	.40	.36	.47
Indianapolis [3]	.37	.28	.46	.47	.33	.59	.44	.35	.56	.45	.27	.77
Kansas City	.30	.30	.32	.39	.35	.54	.41	.35	.54	.37	.24	.75
Milwaukee [3]	.41	.35	.54	.49	.39	.67	.49	.39	.67	.45	.37	.70
Minneapolis-St. Paul	.39	.36	.40	.42	.35	.48	.41	.40	.45	.42	.36	.50
Omaha	.33	.28	.40	.39	.27	.48	.38	.26	.48	.40	.29	.45
St. Louis	.29	.24	.43	.36	.27	.43	.34	.24	.40	.35	.25	.44
Mountain and Pacific:												
Denver [4]	.33	.32	.34	.36	.34	.38	.37	.35	.38	.39	.36	.45
Los Angeles	.46	.38	.55	.57	.44	.94	.53	.45	.80	.55	.46	.75
Portland, Oreg	.47	.46	.48	.49	.47	.55	.49	.47	.55	.53	.50	.70
San Diego [7]	.55	.45	.90	.61	.49	.93	(5)	(5)	(5)	.57	.48	.64
San Francisco	.52	.46	.63	.62	.50	.72	.64	.55	1.00	.75	.64	.92
Seattle	.51	.50	.64	.57	.52	.65	.62	.60	.63	.69	.61	.74

[1] Excludes laundries with less than 9 employees.
[2] April 1943 unless otherwise noted.
[3] Data refer to a July 1943 pay-roll period.
[4] Data refer to a January 1943 pay-roll period.
[5] Insufficient information available for presentation.
[6] Data refer to a June 1943 pay-roll period.
[7] Data refer to a May 1943 pay-roll period.

INTER-AREA DIFFERENCES

On the whole, laundry workers in the Pacific Coast communities received the highest rates and those in the Southern cities the lowest. Wages of extractor operators ranged from 67 cents in Los Angeles to 94 cents in Seattle. In the other Pacific Coast cities average rates fell between these two extremes but, in most cases, were closer to the Seattle than to the Los Angeles level. Washers in the Pacific Coast cities averaged from 77 cents in Los Angeles to $1.13 in Seattle. In the Southern communities extractor operators averaged from 31 cents in Atlanta and Birmingham to 49 cents in Savannah and Norfolk.

Washers received somewhat higher earnings in the South as well as in the Pacific Coast cities; averages for specific cities ranged from 36 cents per hour in Atlanta to 65 cents in Oklahoma City. In Eastern and Middle Western cities, extractor and washer operators received intermediate rates between those in the Pacific Coast and the Southern cities.

Rates for the six occupations in which women were employed generally followed a regional pattern similar to that of rates of extractor operators and washers—they were highest in the Pacific Coast cities, lowest in the Southern cities, and intermediate in the Eastern and Midwestern localities. There were, however, appreciable differences between the Eastern and Midwestern cities in the earnings of women. The latter generally provided higher rates than the former. Thus, rates for catchers, feeders, and shakers, most frequently averaged less than 40 cents per hour in the East and 40 cents or more in the Midwest. Exceptions among the Eastern cities were Buffalo and Rochester, where rates were comparable with those in the Middle West. Among the Midwestern cities, rates in St. Louis and Kansas City were generally lower than in the other communities. Somewhat higher rates were also paid to press operators and markers in the Midwest than in the East, although the contrast is not so marked as for the other occupational groups in which women were employed.

RECENT CHANGES IN WAGE RATES

Because of the low level of wages in laundries and the resulting serious shortage of labor in many cities, the laundry industry has been affected by special regulations issued in connection with the wage-stabilization program. An order issued by the National War Labor Board on February 18, 1943,[3] authorized employers to increase wages up to 40 cents an hour without prior approval of either the National or Regional War Labor Boards. Subsequently, in a letter of September 7,[4] the Director of Economic Stabilization authorized the War Labor Board to approve certain wage increases in the laundry industry without review by his office, even though these adjustments would require price increases. Under this authority the War Labor Board may approve increases in laundry wages, up to the rate set by each regional War Labor Board as a substandard minimum rate, as well as certain increases above this minimum. Except in a few areas in the South, the substandard minimum in effect is 50 cents an hour.

As a result of these rulings, it is probable that substantial increases in laundry wages have taken place in some areas. For the most part, however, the Bureau's figures reflect only those changes made prior to the spring of 1943. The effect of subsequent wage changes will be revealed in another study of the laundry industry which is to be made by the Bureau early in 1944.

[3] National War Labor Board, General Order No. 30, February 18, 1943, amended August 23, 1943.
[4] See National War Labor Board Release No. B-978 (Sept. 15, 1943).

U. S. GOVERNMENT PRINTING OFFICE: 1944

9-7-43

STANDARDS FOR DETERMINATION OF POWER LAUNDRIES AS LOCALLY NEEDED ACTIVITY

The term "power laundry" as used herin refers to an establishment in which any articles of clothing, napery, blankets, bed clothing, or fabric of any kind whatsoever are washed, ironed, or otherwise processed, for compensation, by means of power-driven equipment.

In order that power laundries may be determined as locally needed under the employment stabilization program of the War Manpower Commission, the following conditions shall be found to exist with respect to their operations.

OPERATING STANDARDS

Power laundries shall have:

1. Established the following maximum family laundry services:

   a. Wet wash (shirts finished upon request)

   b. Semi-finished or rough dry (flat work machine finished; wearing apparel dry or damp, and ready to iron; and shirts finished upon request)

   c. Press or family finish (flat work machine finished; wearing apparel straight machine pressed; and shirts finished)

2. Established the following maximum commercial laundry services:

   a. Flat work (bed, bath, table, and kitchen linen)

   b. Laundering of protective work clothing

      (1) Sanitary clothing machine finished

      (2) Industrial clothing and wipers rough dry

3. Increased the efficiency with which existing personnel is used by making the following adjustments in services and operations:

(Ironing)

   a. Eliminated the hand ironing or finishing of any garment except where no mechanical facilities are available.

   b. Discontinued retouching of all flat work.

   c. Discontinued retouching of wearing apparel by hand after pressing, except for bare minimum required to make outer wearing apparel presentable.

THE A.I.L. Member

NUMBER 185 JUNE 25, 1943

SECTION TWO
ESSENTIAL INDUSTRY

Institute Petitions WMC To Class Laundries Nationally As An Essential Industry

Request Increases In Wages and Prices and Deferment of Key Employees

STATEMENT OF THE LAUNDRY INDUSTRY

(A Branch Of The Textile Maintenance Industry)

To the
Committee on Essential Activities and Occupations, War Manpower Commission.

Description of the Laundry Industry

The power or commercial laundry industry serves at least 12 million families (approximately 45,000,000 people) in addition to millions of individual users of laundry service including unmarried men and women and the traveling public. Without commercial laundries this huge segment of the nation's population would be unable to obtain laundry service.

In addition, laundry service is essential to the operation of a wide range of public and private institutions including hospitals, hotels, restaurants, asylums, dining and sleeping car service, army camps, naval stations, etc.

Today the public is far more dependent upon commercial laundries than at any time since the beginning of the industry. Some indication of the greater demand for service that is being made on laundries is shown by the following data:

	1919 (Census Report)	1939 (Census Report)	1942 (Estimate)	
Number of Laundries	4,881	6,773	6,400	
Total Employees	130,641	249,008	275,000	(1)
Sales in Millions.....	$236.3	$453.5	$550	(2)
Total Laundry Wages and Salaries in Millions....	115.5	233.6	310	

(1) Of the 275,000 total employees, it is estimated that 75% are women.

(2) In addition, the 1939 census shows that laundries handled 21% of the total dry cleaning volume.

In summary, laundries are being used by the public as never before. Their owners are firm in their belief

that the continuous operation of laundries is essential to the successful prosecution of the war program for the following reasons:

1. Laundries maintain public health. To maintain sanitation standards, continuous operation of plants should be permitted.

The United States Public Health Service, when recently contacted, expressed serious concern to a committee of laundry representatives when it was pointed out that laundries were closing down in increasing numbers each month. The U. S. Public Health Service further expressed a willingness to state its alarm about the situation upon request for such an opinion from the War Production Board and the War Manpower Commission.

2. Laundries conserve all classes of textiles by converting, each week, millions of soiled and temporarily useless fabrics to hygienically clean and usable articles.

3. Laundries, with their plentiful hot water supply and availability of pressing equipment, are suitable for gas decontamination purposes in case of gas attack on either or both coasts.

4. Laundries are available for handling work for the armed forces of the United States. A number of plants have already been taken over by the Army, putting an even heavier load on the remaining laundries in the community in the handling of civilian laundry service.

5. Laundries help maintain public morale by keeping the public clean and healthy.

6. Laundries release thousands of women for war industries as well as for Red Cross and other patriotic activities.

7. Laundries definitely contribute to the program of avoiding absenteeism on the part of female war workers who otherwise would have to take time off to do their washing at home.

8. Commercial laundries are facing constantly increasing demands for service as domestic servants go into war industry and as the manufacture of domestic washers is prohibited.

Labor Shortage Is Threatening the Laundry Industry With "Shutdowns"

As the war has progressed and more women have gone into war industry, a constantly increasing volume of work has been placed on the shoulders of laundries all over the United States. Laundries have willingly assumed this added burden, but under present conditions it is beginning to be one that they cannot continue to handle satisfactorily. It so happens that the very employees that laundries have on their payrolls are the ones that are desired in war industry, and because of higher rates of pay that the war plants can afford, particularly with price ceilings in effect, the laundry industry is in a very unenviable position.

A typical example of the predicament laundries are in is indicated by the situation in Pittsfield, Massachusetts. A recent wire from the Pittsfield Laundryowners Association reports that the War Manpower Commission had rescinded its essentiality order in view of the fact Pittsfield apparently is now in a Class 4 labor market area. Nevertheless, from a laundry standpoint the labor situation in Pittsfield is *critical*. For exmaple, the Pittsfield Laundry reports having 12 employees left from a normal employment of 42. Dale Brothers Laundry and the Mercury Laundry in that city are operating with skeleton crews. They report that shutdowns in all of their plants are imminent unless something can be done to reinstate their essentiality status to hold their workers.

I quote verbatim from a telegram from the Starchroom Laundry Journal, a national laundry trade magazine:

> "We know from mailing records and newspaper clippings during the past 11 months that 450 laundries have closed down. Actual figure is certainly larger. My conservative calculation is that these laundries have served a half a million families, other estimates 25% higher. For example, the Holland Laundry, Jersey City, closing this week, served 5,000 families. Incidentally, our records show 105 closures in the past two months, which

ships are to have sufficient equipment, ammunition, and supplies to win a global war. One has only to consider the serious influenza epidemic of the World War One to understand the necessity for providing sanitary laundry service not only for the Army, Navy and Air Forces, but also for the civilian population at home.

Efforts of the Industry to Make Maximum Utilization of All Facilities and Manpower

Recognizing that laundries need assistance in securing sufficient employees to serve the public, the War Manpower Commission has designated laundries as a "locally needed" service in 14 states and 17 additional areas. While this has had a psychological effect upon laundry workers in some instances by making them feel that they are having a part in the war effort, the "locally needed" designation has not solved the problem of labor shortage.

When laundry workers can earn more money in a war industry and want to do so, they leave their laundry jobs regardless of the "locally needed" status. As a consequence laundries in many areas have curtailed their services.

In several states, such as New York and Massachusetts, regulations covering the employment of women and minors are being changed for the purpose of providing additional workers for laundries. In Massachusetts, for example, the work week of women and minors in laundries is being extended from 48 to 52 hours. Many plants have attempted to work two shifts in an effort to provide the public with needed service. However, this has not proved successful except in rare instances, since most laundries cannot secure sufficient help for one shift. Detroit, for example, needs 2,000 additional workers to fill one shift. Chicago needs 4,000.

It sometimes is suggested that laundries eliminate their press services to the public and do wet wash and rough dry services only. This proposal is workable in a few cases only. To carry out such a plan, wet wearing apparel would have to be tumbler dried and no laundry has sufficient tumbler drying capacity. Furthermore, drying tumblers are frozen by WPB order except for the armed forces and the Maritime Commission.

It should be recognized, too, that wearing apparel that is not pressed in a laundry has to be pressed at home. This brings up the problem of putting a heavier load on a public utility, when the laundry industry actually lightens the power consumption burden of the utility companies by generating its own power. Also, if the ironing is transferred to the home, laundry drying equipment actually is wasted. Since laundries must use steam to heat their hot water supply, they also have excess steam for the heating of pressing equipment and the operation of engine-generators. Thus the steam heated presses of a laundry actually represent available drying capacity that otherwise must be provided by power purchased by consumers in the operation of home electric irons.

Summary

Unless something is done soon to enable laundry-owners to pay wages that compare more favorably with those offered by war industry on some sort of area basis (since wage rates differ with the locality), there is every reason for believing that many additional laundries will close their doors within the next six months. The problem is aggravated by the fact that in hundreds of cases laundry prices in 1943 are the same as they were in 1939 or 1940. With a trend toward rising labor costs prior to the wage-freeze, and now toward decreased efficiency of unskilled operators who produce less, many laundries in the last six months have seen their profits disappear completely. Even in normal times 55 cents of every dollar of sales income was paid out as wages and salaries. Under current operating conditions this cost has risen to 60 and 65 cents and even more in some cases.

Therefore, it will be necessary for laundries to advance prices at the same time that wages are raised. Price and wage rates go hand in hand in the case of a service industry such as laundering.

As previously suggested, it is believed that wage rates will have to be flexible and dependent upon the

that the continuous operation of laundries is essential to the successful prosecution of the war program for the following reasons:

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Another national publication, Laundry Age, estimates from its records that 600 laundries have closed during the past year.

In numerous other communities throughout the country, because of the shortage of labor, laundry service is being curtailed, and in certain instances laundering is being discontinued entirely, even though the dry cleaning departments are operating with skeleton crews.

Quoting from a report of the Chicago Laundryowners Association, as it appeared in the Chicago Daily News of June 9:

> "Either the government has to step in to make workers available for laundries or present and prospective employees must be fully convinced that laundry work is extremely important in the war program. Normally the 135 plants which are members of the Chicago Laundryowners Association have 12,000 employees and handle about 85% of the volume in the area. In a recent checkup, fewer than 8,000 workers were found to be on the job."

The following quotations from telegrams from widely scattered sections of the United States prove the seriousness of the problem nationally:

> "Approximately 4,000 now on payroll, 15 per cent absenteeism, 2,000 more employees required to satisfy demands for service. Only 4 plants have closed but many have been forced to discontinue all finished services."
>
> —Detroit Institute of Laundering

> "Seven closed out state, two in St. Louis. Others on ragged edge. Many services being refused by those now in operation. Have now on my desk thirteen hotels in St. Louis which I am unable to place for service. Estimate 3,000 families unserved or forced to change to different classification due to closing of laundries. One St. Louis laundry discontinued 2,000 finished bundles, is doing soft finish and shirts only. Two laundries cut out everything except wet wash flat working ironed. Two

laundries discontinued cash and carry even in laundry office. Many laundries refusing to accept additional work. Telephones cut off."

—Missouri Laundryowners Association

"Laundries closed in Boulder, Greeley, Gunnison, Florence and Golden. Last three towns now without laundry service. Estimate 4500 people affected. Gunnison hauls 90 miles to Mt. Rose. Higher prices and higher wages will be absolutely essential in the state shortly."

—Colorado-Wyoming Laundryowners Association

"Approximately 40 laundries closed during past year. Estimate they served 20 to 25,000 families."

—Massachusetts Laundryowners Association

"Estimate 6 plants closed Connecticut serving 5,000 families. Need for help most critical problem and unless solved there will be wholesale closings."

—Connecticut Laundryowners Association

"Not less than 16 good sized plants closed in last 6 months. Loss about 30,000 families."

—Ohio Laundryowners Association

"Three plants closed in Virginia. Estimate customers at 3,000. Ten plants closed in Baltimore. Estimate customers at 34,000. None in D. C."

—Maryland, Virginia, D. C. Laundryowners Association.

"Conservative estimate number laundries New York State closed during past 12 months result of war conditions 145. Number of families served upward of 150,000."

—New York State Laundryowners Association

"Unable to advise for state. Six laundries closed in Philadelphia. Estimate 15,000 families affected."

—Philadelphia Laundry Board of Trade

"11 Chicago plants serving 13,000 families have closed during last 6 months. Others have closed throughout the state but have no record."

—Chicago Laundryowners Association

"Approximately 90 laundries closed. More closing weekly. Labor main problem. Plants operating doing 50% Government work. Almost impossible for civilians to get laundry processed. Government taken over 6 plants in Northern California. None in Southern part. All plants are condensing operating areas and facing cash and carry. Many isolated areas once served are discontinued."

—California Laundryowners Association

"Estimate four laundries Atlanta closed 12 months serving approximately six thousand families. Southeast about 25 plants serving approximately 35,000 rough estimate."

—The Laundryman's Guide (magazine) Atlanta, Georgia

"Western plants taken by army serve probably 75,000 families. Estimate 30 other white laundries serving 25,000 families closed by war conditions with many others on verge of closing. Japanese plants out of use served additional 20,000 families. Huge volume of army work handled by existing civilian plants."

—Pacific Laundry and Cleaning Journal San Francisco, California

In summary, in spite of the fact that laundries are expected and want to do the biggest laundry job that has been done in their history, and because of the many separations that are occurring as laundry workers enter employment in war industry at higher rates of pay, less and less volume is being handled. Telegrams from the various areas indicate that the situation is becoming increasingly critical, and that there are many more plants that are on the verge of closing down unless the situation can be corrected rapidly.

Age Distribution of Men in the Laundry Industry

Due to the fact that data from the industry had not been received at the time this brief was prepared, this information will be presented during the hearing.

The War Job of the Laundry Industry

Because of the peculiar nature of the service performed by the laundry industry, the bulk of the work handled belongs to the general public rather than to war industry. However, it should be recognized that work conducted for the public includes that done for war workers as well as the general population. There is no disputing the fact that large portions of the tremendous laundry bundle that is thrown at the industry weekly is made up of soiled, unsanitary textiles worn or used by war workers. This is borne out by the fact that it is in war production communities on the whole that the problem of continuing to provide laundry service is the most acute. Such areas as Detroit, Cleveland, Maryland, New Jersey, California, Oregon, Washington (state) and New England are examples of this fact. Thus, in taking laundry workers into expanding war industry, factories unwittingly have accentuated the problem of adequate laundry service for their own employees. By hiring workers away from laundries, war plants have created a situation that contributes to the very problems of absenteeism that industry is trying to avoid.

Laundries, furthermore, are playing a constantly increasing role of importance in providing sanitary service for the armed forces of the United States. Eighty-five percent of the laundry work of the Army Air Force, for instance, is reported to be handled by privately owned laundries. The War Department, furthermore, has taken over and is operating a number of privately owned laundries in order to handle the work of the armed forces. In the main, however, the soiled work of the Army that is not handled in camp laundries, is sent to commercial plants to be processed. Hundreds of laundries in areas where there are army camps or debarkation ports are expected and are willing to take on this added work plus the work sent each week by the general public. Such service, both to the armed forces and to the public, can be rendered only when a laundry has a sufficient labor supply.

Nor should it be assumed that the recognized sanitary value of commercial laundering is of importance only to the armed forces. The general health and well being of the public as a whole is of equal importance if the fighting men at the front or aboard

ships are to have sufficient equipment, ammunition, and supplies to win a global war. One has only to consider the serious influenza epidemic of the World War One to understand the necessity for providing sanitary laundry service not only for the Army, Navy and Air Forces, but also for the civilian population at home.

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Summary

Unless something is done soon to enable laundry-owners to pay wages that compare more favorably with those offered by war industry on some sort of area basis (since wage rates differ with the locality), there is every reason for believing that many additional laundries will close their doors within the next six months. The problem is aggravated by the fact that in hundreds of cases laundry prices in 1943 are the same as they were in 1939 or 1940. With a trend toward rising labor costs prior to the wage-freeze, and now toward decreased efficiency of unskilled operators who produce less, many laundries in the last six months have seen their profits disappear completely. Even in normal times 55 cents of every dollar of sales income was paid out as wages and salaries. Under current operating conditions this cost has risen to 60 and 65 cents and even more in some cases.

Therefore, it will be necessary for laundries to advance prices at the same time that wages are raised. Price and wage rates go hand in hand in the case of a service industry such as laundering.

As previously suggested, it is believed that wage rates will have to be flexible and dependent upon the

situation in a particular community. It is perfectly apparent, for instance, that if 12 cents is the prevailing price for the laundering of a shirt in one community and 18 cents is the price in a second city, the wages paid for equal productivity must be lower in the first community.

We believe that the establishment of laundries nationally as an essential industry will aid materially in solving the current labor problems. However, permission to increase wage rates and prices also will be required in many cases in order to attract sufficient laundry workers to handle the job of keeping the public clean and healthy. It is granted that the manufacture of textiles is an essential activity. Yet when these same textiles become soiled, they are no longer of value to their owner or to anyone else. Certainly, then, the laundering of soiled textiles is basically essential, too.

AMERICAN INSTITUTE OF LAUNDERING
GEORGE H. JOHNSON
General Manager
Washington, D. C.
Joliet, Illinois

LAUNDRY JOBS WHICH CAN BE PERFORMED BY WOMEN WORKERS AND DESCRIPTIONS

Job and Description of Duties	Part-Time Workers Adaptable	Older or Handicapped Workers Adaptable	Type of Handicap Adaptable
1. Bundle Operator Classifies, carries and trucks bundles of soiled washing to markers; may weigh bundles and start or start conveyor, supply pins and nets to markers.	*	*	One eye Hunchback Deaf One or two fingers off
2. Marker or Classifier Divides customer bundles into proper classifications, places each classification in proper net, and pins; identifies each individual piece, lists items in bundle.	*	*	Age
3. Seamstress Darns or patches damaged nets used in washing bundles; replaces buttons on shirts and wearing apparel, makes minor fabric repairs on shirts and wearing apparel; performs some alterations.	*	*	Age Hunchback Deaf-mute One or two fingers off
4. Tumbler or Drier Operator (Small Machine) Lifts damp articles of washing from hand trucks into a tumbler that dries and fluffs up damp fabrics; starts and stops the tumblers; lifts dried articles from tumbler into hand truck; folds and stacks dried articles.	*	*	Age Hunchback One or two fingers off
5. Shake-Out and Starch Operator Sorts clean semi-dry articles; sets aside pieces that are not to be starched and sorts the remaining articles into groups according to the type of starching that is required; shakes out garments by hand and places them in piles to facilitate work of the starching; applies proper classification of starch; operates small starch extractor.	*	*	Age Hunchback Deaf-Mute One eye One or two fingers off
6. Starch Maker Mixes ingredients such as dry starch, water, and beeswax in a tank; opens and closes valves to cook and cool the liquid starch solution. This job is normally combined with some other job in the plant.	*	*	Age Hunchback Deaf-Mute One eye One or two fingers off
7. Flatwork Shake-Out Operator Shakes out creases in semi-dry washing either by hand or by machine operation placing various articles in convenient piles on tables or poles ready for feeders.		*	Deaf-mute
8. Flatwork Feeder Places clean, damp flatwork pieces on feed ribbons which convey pieces into flatwork ironing machine.	*	*	Age Deaf-mute

Job and Description of Duties	Part-Time Workers Adaptable	Older or Handicapped Workers Adaptable	Type of Handicap Adaptable
9. Flatwork Folder Receives articles as they emerge from flatwork ironing machine and either partially or completely folds them. In plants handling work with a net or bundle system the operator must keep individual bundles together and properly identified.	*	*	Age Deaf-mute
10. Flatwork Refold and Touch-Up Operator Finishes folding pieces of flatwork which have been partially folded by folder operator; removes wrinkles from work passing through flatwork ironer; presses articles which have been only partially dried by flatwork ironer; keeps production records; inspects articles for stains, damages, or poor ironing.	*		
11. Hand Ironing Operator Completely irons better grades of flatwork or expensive materials with the use of a hand iron.	*	*	Age Deaf-mute
12. Handkerchief Ironer Places clean, damp handkerchiefs on turret-type machine; operates machine; folds handkerchiefs; keeps individual customer bundles together and identified.	*	*	Age Deaf-mute
13. Wearing Apparel Press Operator Machine presses all types of wearing apparel; operates press; sometimes does hand touch-up work and folding.	*	*	Age
14. Wearing Apparel Finisher Finishes those parts of wearing apparel, which cannot be done on presses, with a hand iron.	*	*	Age
15. Wearing Apparel Service Operator Inspects wearing apparel for missing buttons, tears, stains; routes garments to be hand finished to hand finisher; keeps production records; folds garments.		*	Age
16. Shirt Press Operator Lays and arranges shirts on the padded buck of the presses designed to finish a particular part of the shirt and pushes buttons or moves levers to raise or lower the pressing head; also periodically puts on new padding and cover cloths on pressing machine.	*		
17. Shirt Hand Finisher and Folder Where shirts are completely machine pressed, this operator merely folds shirts. In other cases shirts are both hand ironed in certain spots untouched by the presses and then folded. Inspection is a part of the job.	*		

Job and Description of Duties	Part-Time Workers Adaptable	Older or Handicapped Workers Adaptable	Type of Handicap Adaptable
18. Blanket Operator Feeds blankets between rolls of a nap-raising machine; moves lever to start and stop and adjust machine; brushes blankets by hand; hangs or stretches blankets up to dry.	*	*	Age One or two fingers off Deaf-mute
19. Curtain Operator Stretches curtains on curtain-drying machine; operates fluting machine or ruffle machine; presses curtains; folds and hangs curtains ready for delivery; inspects for quality.	*	*	Age One or two fingers off Deaf-mute
20. Sorter or Assembly Operator Sorts laundered and finished articles into groups according to customer ownership and assembles groups for wrapping.		*	Age One or two fingers off
21. Checker or Distributor Verifies the listing of each customer's bundle of washing as assembled and recorded by the sorter; inspects articles to insure that they have been satisfactorily laundered and finished; places checked bundle ready for wrapper.		*	Age One or two fingers off
22. Wrapper Packs clean, finished clothing and fabrics in cardboard boxes; places lids on boxes and secures them with string or gummed tape;prepares boxes by folding and arranging them ready for use.	*	*	Age
23. Damp Assembly Operator This job follows washing and extracting wherein the operator assembles clean, washed customer bundles and places them in delivery bags ready for delivery to the customer. If garments are to be finished, they are prepared,identified and placed in trucks to be routed to finishing departments. Operator checks to make certain that all parts of the customer's bundle are intact; removes nets of laundered articles from conveyors; removes and assembles pins; hangs up nets of laundered articles on conveyor or assembly rack.			
24. Finished Bundle Operator Sorts package bundles into proper bins ready for pick-up by routemen; delivers supplies as needed to various operators in plant; keeps inventory record.	*	*	Age Deformed hand or leg One or two fingers off Hunchback

Job and Description of Duties	Part-Time Workers Adaptable	Older or Handicapped Workers Adaptable	Type of Handicap Adaptable
25. Claim Adjuster or Service Operator Consults office records; classifies complaints and performs other clerical work incidental to the adjustment of customer complaints concerning lost or damaged goods.			
26. Department Head, Foreman, or Supervisor Supervises the activities of workers in her department; maintains production records; helps to plan variations in methods of operation of department; regulates flow of work through the department; assigns work; trains new employees; may perform one or more jobs within the department if she is a working supervisor.		*	Age
27. Ticket operator or Pricing Clerk Performs clerical work involved in pricing each customer's bundle; keeps records of bundles received; keeps records of weights, prices, etc.; separates lists and tickets.		*	Age One eye Deformed hand or leg Hunchback
28. Telephone Operator Operates switchboard; receives calls from laundry customers for pick-up of bundles; assists with other office duties.		*	Age One Leg Hunchback
29. Sales Control Operator Prepares laundry tickets for route salesmen; maintains records of regular and irregular customers; prepares addressographed plates; operates addressograph machine; assists with other office duties.		*	Age Deformed hand or leg Hunchback
30. Bookkeeper Prepares and keeps complete set of books; assists in making out the payroll; keeps record of cash returns from route salesmen; prepares statements for customers; receives and pays outstanding bills.		*	Age One leg Deformed hand or leg Hunchback
31. Counter Girl Receives and dispatches Cash and Carry bundles; sorts bundles; acts as receptionist; and may assist with other office duties.	*	*	Age
32. Route Driver or Driver Salesman This job is normally handled by a male operator, but under present conditions some plants have changed over to females. Duties involved are driving a delivery truck over an established route to collect soiled bundles and deliver laundered or finished bundles to customers' homes. Calls on prospective customers to solicit patronage. Makes collections from customers; reports complaints; unloads bundles at plant or loads trucks, as the case may be.			

Job and Description of Duties	Part-Time Workers Adaptable	Older or Handicapped Workers Adaptable	Type of Handicap Adaptable
33. Payroll or Production Clerk Keeps production records; calculates hourly rates. May be assistant superintendent		*	Age Deformed arm or leg

WAR MANPOWER COMMISSION
Washington 25, D.C.

In reply
refer to [redacted]

WMC Field Instruction No. 115
Essential Activities No. 8
November 22, 1943

To: All Regional Manpower Directors

Subject: Interpretation of Section 5b of the Laundry Standards and Section 3b of the Dry Cleaning Standards

We understand that there have been some questions raised in the field with regard to the interpretation of Section 5b of the national standards for determining laundries as locally needed, issued September 7, 1943, and that the same question may be raised with regard to Section 3b of the national standards for determining dry cleaning as locally needed.

We would like to call attention to the fact that these sections are not to be construed as fixed regulations, but rather as limiting retail deliveries to a seven-day schedule to the extent determined by the Area Manpower Director to be compatible with maintenance of necessary services. If any questions arise in regard to delivery schedules, we would suggest that the Area Director consult with the appropriate representative of the Office of Defense Transportation.

Initiated by:

/S/ Collis Stocking
Chairman
Committee on Essential Activities

/S/ J. H. Bond
Deputy Executive Director

WAR MANPOWER COMMISSION
Washington 25, D. C.

In reply
refer to WMEA

WMC Field Instruction No. 114
Essential Activities No. 7
November 22, 1943

To: All Regional Manpower Directors

Subject: Standards for Dry Cleaning Designated as Locally Needed

In accordance with Section III-A5 of Field Instruction No. 2, September 10, 1943 (Revision of former Operating Instruction - Field No. 15 revised as of May 25, 1943), copies of the standards that have been established for wholesale and retail dry cleaning are attached.

Initiated by:

/S/ Collis Stocking,
Collis Stocking,
Chairman, Committee on
Essential Activities

/S/ J. H. Bond
J. H. Bond,
Deputy Executive Director

Attachment

STANDARDS FOR DETERMINATION OF DRY
CLEANERS AS LOCALLY NEEDED ACTIVITY

Coverage

The term "dry cleaner" as used herein refers to an establishment where any article of clothing, household furnishings or fabrics of any kind whatsoever are cleaned by the dry solvent method, pressed (includes establishments which render only a pressing service) or otherwise processed for compensation.

In order that dry cleaners may be determined locally needed, the following conditions shall be found to exist with respect to their operations:

Dry cleaners shall have:

1. Established preference by group classifications for all garments and other articles to be dry cleaned in the following order of importance; but must process no article until it is apparent that all articles on hand in preceding classifications can be completed on schedule:

    a. Uniforms, work and business clothes (garments in season for ordinary wear).

    b. Household articles.

    c. Other items.

2. Increased the efficiency with which existing personnel is used by making the following adjustments in services and operations:

    (Processing)

    a. Eliminated untacking and retacking of trouser cuffs.

    b. Eliminated separate pressing of under pocket flaps.

    c. Eliminated hand finishing of linings and separate press finishing of linings, except instances of wet cleaning.

d. Eliminated the making of free minor repairs except on customers' request.

e. Eliminated the hand-finishing of any article except where no mechanical facilities are available.

f. Eliminated the carding of wools and knits to remove knotted fuzz.

(Packaging)

g. Eliminated all fancy packaging and specialty boxes used for decorative purposes.

h. Eliminated special wrappings and the use of tissue paper on individual garments except in instances where such wrapping is necessary for the proper return of the garment, e.g. knit and boucle garments.

3. Taken the following steps in the reduction of labor required for pick-up and delivery service:

a. Established non-overlapping delivery zones.

b. Instituted a seven-day schedule to retail consumers: that is, simultaneous pick-ups and deliveries, or either of which, no more frequently than once a week in any zone (route).

c. Eliminated all special pick-ups and deliveries except for the armed forces and in cases where it would become necessary to inaugurate an emergency system for war workers or where such pick-ups are necessary for the protection of the public health and welfare.

d. Eliminated all call-backs, except in emergencies where provision has not been made for receiving work at a given time and in circumstances, such as are cited in "c" above.

e. Complied with all ODT orders governing local delivery carriers.

f. Made a concerted effort, within legal limits, to reduce the number of overlapping territories as between dry cleaners to a minimum by inter-changing customers.

4. Rearranged working hours so that wherever feasible there will be an extension of operating hours or a multiple shift arrangement in order to obtain maximum utilization of existing equipment.

5. Indicated a willingness to accept and serve new retail accounts or to release old accounts, as may be required to maximize the utilization of available manpower.

Voluntary Program for Dry Cleaners

In order that the designation of "locally needed" may accomplish more fully the purposes for which it was intended, it is suggested in addition to meeting the foregoing standards that dry cleaners cooperate in public appeals for consumers' economy in the use of dry cleaning services by:

a. Encouraging customers to mend broken seams, hems, rips in dresses and suits before sending them for cleaning whenever it is practicable to do so.

b. Requesting customers except those who are transient to remove fragile and fancy ornaments, buttons, etc., before sending garments to be cleared.

c. Requesting customers except those who are transient to remove washable lingerie trimming before sending garment to cleaner.

d. Requesting the cooperation of customers in obtaining more use of garments between dry cleanings.

e. Suggesting a minimum use of articles which require special treatment in dry cleaning.

f. Encouraging cash and carry service.

Miss Miller August 31, 1944

Miss Stitt

Wage Data for laundries

As of March 8, 1944, laundries had been declared "locally needed" by the War Manpower Commission in 162 areas. The entire list of localities is attached.

War Labor Board Policy.

As you know, Regional War Labor Boards may determine what rates up to 50 cents are substandard in their respective regions. The National Board will approve nothing above 50 cents. The present substandard rates range from 40 to 50 cents, and are as follows by regions:

Region I (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island).
50 cents in Massachusetts, Rhode Island, Connecticut. (Although no such rate has been set in Maine, Vermont and New Hampshire, there is a strong tendency on the part of the Board to approve 50 cents as a substandard rate in individual cases.)

Region II (New York and Northern Counties of New Jersey).
50 cents.

Region III (Pennsylvania, Delaware, Maryland, Washington, D.C., and Southern Counties of New Jersey).
50 cents.

Region IV (Georgia, North Caroline, South Carolina, Florida, Tennessee, Alabama, Mississippi, Virginia).
50 cents.

Region V (Ohio, West Virginia, Kentucky).
50 cents in Ohio and West Virginia.
45 cents in Kentucky.

Region VI (Indiana, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota).
50 cents.

Region VII (Missouri, Arkansas, Nebraska, Kansas, Iowa).
50 cents.

Region VIII (Texas, Louisiana, Oklahoma).
50 cents in all Class A Counties.
45 " " " " B "
40 " " " " C "

Region IX (Colorado, New Mexico, Montana, Wyoming, Utah, Idaho).
50 cents.

Region X (California, Nevada, Arizona).
50 cents.

Region XI (Michigan)
50 cents.

Region XII (Washington, Oregon, Alaska)
50 cents.

War Labor Board policy concerning the payment of substandard rates by any employers including laundries is expressed in Section III-B-6 of wage bracket instructions (W.L.B. release Nov. 17, 1943. B-1116) and reads as follows:

> "In cases involving the application of minimum rates defining substandards of living, the following should be observed:
>
> "a. In voluntary cases, where an applicant's proposed rate or rates for one or more job classifications are below the appropriate Regional substandard minimum rate, such proposed rate or rates may be approved without regard to the wage-bracket rates for such job classifications.
>
> "b. In dispute cases, where the disputed rate or rates for one or more job classifications are below the appropriate Regional substandard minimum rate, the Regional Boards in their discretion may use appropriate bracket minimum in determining such cases."

Increases bringing wages up to the area substandard rate in voluntary cases are automatically approved by the Board. Increases bringing wages up to 40 cents may be made without Board approval. On September 7, 1943, Judge Fred M. Vinson authorized the National War Labor Board to approve wage increases in the laundry industry that would bring wages up to the Board's substandard minima, even though "price increases are involved." (See attached NWLB release, September 15, 1943, B-978).

In dispute cases the bracket minimum, if it is lower than the substandard minimum, is approved. Bracket minima have been established for the laundry industry by the WLB for the following localities:

Region IV
Areas A,B,C,D
Rock Island, Moline, Ill.
Indianapolis, Ind.
S. Bend, Elkhart, Mishawaka, Ind.
Little Rock, Ark.
Cedar Rapids, Iowa
Council Bluffs, Iowa
Des Moines, Iowa
Sioux City, Iowa
Hutchinson, Kansas
Topeka, Kansas
Wichita, Kansas
Joplin, Mo.
Kansas City, Mo.
St. Louis, Mo.
Springfield, Mo.
Omaha, Nebr.
Region VIII
San Francisco, Calif
Monterey, Salinas, Santa Cruz, Watsonville, Calif.
Alameda, Calif.
Los Angeles, Calif.
San Diego Area, Calif.
San Jose, Calif.
Contra Costa, Calif.
East of Cascades) Region XII
West of Cascades) Region XII
Eastern Oregon
Oregon West of Cascades except Portland
Southwestern, Oregon
Medford-Klamath Falls, Oregon
Portland, Oregon
Central Area, Wash.
Northeast Rural Area, Wash.
Southeast Area, Wash.
Spokane, Metro, Area. Wash.
Seattle, Wash.
Willamette Valley

The bracket minima are established by occupation, and are supposed to reflect the going rates in an area for individual jobs. That being the case these minima may be higher or lower than the substandard rate determined for the appropriate region. Region IV, consisting of Georgia, North Carolina, South Carolina, Florida, Tennessee, Alabama, Mississippi and Virginia will serve to illustrate.

Region IV

Substandard rate	Bracket minima by area within the region. Range by occupation			
	Area A	Area B	Area C	Area D
50 cents	40-60¢	40-45¢	40-45¢	40-45¢

War Manpower Commission Policy.

It is our understanding that the War Manpower Commission has instructed local U. S. employment offices not to recruit workers for employers who are not paying the W.L.B. substandard rate or who have not applied to the W.L.B. for permission to pay such rates.

The Employment Service is free, however, to refer applicants, who have not been recruited by the U.S.E.S., to establishments paying less than the W.L.B. minimum, on the theory that some of these persons are submarginal and cannot secure employment elsewhere. (Part II, U.S.E.S. Manual, Section 3240)

Certificates of availability may be issued to any worker employed at wages below the W.L.B. substandard wage, in order that he may obtain a job paying at least the W.L.B. minimum. (Regulation 7, U.S.E.S.)

Senator Pepper's Resolution.

In light of possible efforts on the part of the laundry industry to secure a reduction in W.L.B. regional substandard rates, the resolution introduced in the Senate by Senator Claude Pepper August 25, 1944, is of interest:

> "Whereas pursuant to the Act of October 2, 1942, which was designed to aid in stabilizing the cost of living, the President, in Executive Orders 9250 and 9328, conferred authority upon the National War Labor Board to correct substandards of living; and
>
> "Whereas substandard wages not only undermine the health and strength of the Nation but curtail production; and
>
> "Whereas Congress deems it desirable to determine a rate below which wage rates shall be considered substandard; Therefore be it

"Resolved by the Senate (the House of Representatives concurring), That it is the sense of the Congress that a straight time hourly rate of 65 cents per hour is the minimum below which the National War Labor Board shall consider any wage rate substandard."

Wage Data for the Laundry Industry.

The only recent wage data for the laundry industry reported by sex of which we have a record in the Women's Bureau are (1) the reports of the New York and Illinois Departments of Labor, and (2) Bureau of Labor Statistics figures collected in 1943 for use by the National War Labor Board in the wage stabilization program.

The average hourly earnings reported in the following tables are for the laundry, cleaning and dyeing industries combined in the case of Illinois, and for the laundry industry alone in New York.

Average hourly earnings of men and women in the laundry, cleaning and dyeing industry - Illinois 1/ - October 1943 - May 1944

Year and month	Average hourly earnings		
	Both sexes (Dollars)	Women (Dollars)	Men (Dollars)
October, 1943	.65	.48	.88
November "	.66	.47	.89
December "	.66	.49	.86
January, 1944	.68	.50	.86
February "	.68	.50	.90
March "	.69	.51	.92
April "	.72	.53	.94
May "	.76	.53	1.00

1/ Illinois Department of Labor, The Illinois Monthly Labor Bulletin

Average hourly earnings of workers, men and women, and women in the laundry industry - New York State 2/ - October 1943-May 1944

Year and month	Average hourly earnings	
	Both sexes (cents)	Women (cents)
October, 1943	67.3	53.0
November "	67.1	53.2
December "	67.9	53.7
January, 1944	68.8	54.8
February "	68.1	54.4
March "	69.4	54.3
April "	70.3	56.4
May "	71.9	56.9

2/ New York State Department of Labor, The Industrial Bulletin.

I am attaching a copy of an article entitled, Wage Rates in Power Laundries, Spring of 1943, which appeared in the January, 1944, issue of the Monthly Labor Review. Table 2, pages 4 and 5, of this article presents average hourly earnings in two laundty occupations for males and in 6 for females in 36 cities or areas.

Miss Spring's division copied similar data for 1943 from BLS source material for laundry occupations in selected areas in the following 26 States: California, Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Rhode Island, South Carolina, Texas, Utah, Vermont, Virginia, Washington and West Virginia. Data similar to those used in the Monthly Labor Review article are available from this material for more than 100 cities. If you think this additional material would be useful, Miss Spring's division probably could prepare appropriate tables for you.

I find on checking with Miss Pidgeon that BLS reports periodically employment figures by sex, but not wage data. Because average hourly earnings for all employees in power laundries may be of interest, I am including the following table compiled from data reported by the Bureau of Labor Statistics in the May, June, July, and August, 1944, issues of the Monthly Labor Review.

Average hourly earnings for all employees in power laundries - Dec. 1943-May 1944
(cents)

December 1943	January 1944	February 1944	March 1944	April 1944	May 1944
58.3	59.6	59.7	60.1	60.6	61.9

Situations with Which the Women's Bureau Has Dealt.

The Women's Bureau has furnished information about cost of living, wage rates and earnings, job classifications and specifications, etc., to unions to assist them in preparing briefs for dispute cases before the War Labor Board. Examples of WLB cases with which we have helped are the General Motors Case, Dayton (UAW-CIO), The Ohio Bell Telephone Company and Traffic Council (Ohio Federation of Telephone Workers), a case in Indianapolis in which several firms were involved (UAW-CIO).

No previous cases in which employers have sought a reduction in the WLB substandard rates have come to the attention of the Women's Bureau. It would be extremely unfortunate in my opinion if a request for such a reduction were to be submitted to the WLB. Although, all wages have, by no means, been raised to the WLB minima, the very fact that employers may raise them to those levels with assurance of Board approval and the U.S.E.S. will not recruit labor for employers

who do not pay at least the WLB minima has had beneficial effects I am sure. Public attention has been called to the fact that a Federal agency charged with the task of stabilizing wages considers any rate below 50 cents substandard, and gives it approval to voluntary wage increases that would bring wages up to that level.

I doubt very much if the WLB, at this stage, would give serious consideration to a request to reduce these minima. These rates do not apply to the laundry industry only, but to all industries. No worker, irrespective of the occupation he follows, is supposed to be able to maintain an acceptable standard of living on less than the WLB substandard rates. The unions, not only in the laundry industry but in all industries, would bitterly oppose any reduction in these substandard rates.

78th CONGRESS
2d Session S. CON. RES. 48

IN THE SENATE OF THE UNITED STATES

August 25 (legislative day, August 15), 1944
Mr. Pepper submitted the following concurrent resolution; which was referred to the Committee on Education and Labor

---

CONCURRENT RESOLUTION

Whereas pursuant to the Act of October 2, 1942, which was designed to aid in stabilizing the cost of living, the President, in Executive Orders 9250 and 9328, conferred authority upon the National War Labor Board to correct substandards of living; and

Whereas substandard wages not only undermine the health and strength of the Nation but curtail production; and

Whereas Congress deems it desirable to determine a rate below which wage rates shall be considered substandard: Therefore be it

Resolved by the Senate (the House of Representatives concurring), That it is the sense of the Congress that a straight time hourly rate of 65 cents per hour is the minimum below which the National War Labor Board shall consider any wage rate substandard.

Region I	- 50¢ in Massachusetts, Rhode Island, and Connecticut; In Maine, Vermont, and New Hampshire, while no such rate has been set, there is a strong tendency on the part of the Board to approve in individual cases 50¢ as a sub-standard rate.
Region II	- 50¢ ceiling
Region III	- 50¢
Region IV	- 50¢ ceiling
Region V	- 50¢ in Ohio and West Virginia 45¢ in Kentucky
Region VI	- 50¢ ceiling
Region VII	- 50¢ ceiling
Region VIII	- 50¢ in all class A counties 45¢ " " " B " 40¢ " " " C " See list of A and B counties below; all other counties in Texas, Louisiana and Oklahoma are Class C Counties having a 40¢ rate.
Region IX	- 50¢
Region X	- 50¢
Region XI	- 50¢
Region XII	- 50¢

"Wages paid to workers engaged in the activity are not less than the rate established for the region or area by the War Labor Board as necessary to avoid substandards of living. If no such rate has been set and approved, the activity must be paying wage rates at least equal to 40¢ an hour."

"When an Area Manpower Director finds that a trade or service, primarily local in character, is required to maintain services necessary to the health, welfare and safety of the area or services necessary for the conduct of essential activity, and that it cannot meet the necessary demand for its services without the special protection provided for it in Section II-B of this instruction, he may designate it as a 'locally needed' activity."

Laundries close

ADVANCE RELEASE---- ADVANCE RELEASE

IAS MGR-H
MVR
CM VS

OFFICE OF WAR INFORMATION

Advance Release: For Friday Afternoon Papers, July 30, 1943

Howard: 72006 OWI-2240

More than 100 laundries in various parts of the country have been forced to close during the past three months, bringing the year's total of these shut-downs to about 600, the Office of War Information reports.

On the remaining laundries has fallen the burden, not only of the work normally done by these 600 casualties, but of increases in new service requests ranging as high as 200 percent. Typical examples are Springfield, Mass., where 100,000 men's shirts are being received weekly as against 50,000 a year ago, and New York City which reports from 150 to 200 percent more work -- and 35 percent less than the normal number of employees.

That is why the shirt-a-day man must have at least 28 shirts in his wardrobe to take care of the two-week gap between sending them to and receiving them back from the laundry -- why a Houston, Texas, hotel now provides its guests with "finger" towels, half the size of a regular face towel -- why so many restaurants which used to be stickler for fresh table cloths for each guest, now serve their meals on bare tables and slip a paper napkin into the customer's lap.

It is also the reason why the War Manpower Commission has required that, if a laundry is to be classified as "locally needed" and get help from the United States Employment Service, it must agree to: eliminate handironing of finishing of any garment if mechanical facilities are available; eliminate all starching or sizing of flat work; limit customers to one grade in the starching of shirts and other apparel; eliminate folding of articles in damp or wet wash bundles; request hotels and lodging houses to change bed linen not oftener than once a

week for any one guest and limit guests to one face and one bath towel per day; and request restaurants to use an average of no more than one tablecloth per day per meal period.

Adherence to these and certain other provisions of the War Manpower Commission makes a laundry eligible for referral of workers by the U.S. Employment Service and assures it of protection from labor piracy and stabilization of their existing labor force.

The reasons why the laundries find themselves in their present plight vary in different parts of the country, according to the Office of War Information.

Citing figures from the American Institute of Laundering, OWI points out that despite an increase in the number of laundry employees -- 26,000 more today than before Pearl Harbor -- the immediate cause of the difficulties in most areas is shortage of labor. This is particularly true of experienced labor, especially in war production centers where many long-term employees have left the laundries for better-paying jobs in war plants. And inexperienced labor, according to one estimate, cuts output from 10 to 20 percent.

But back of this shortage are other wartime conditions which have made labor insufficient even though there is more of it:

Thousands of women who formerly did their laundry at home, have taken full-time war jobs and must now send their laundry out.

Thousands of former private laundresses have also gone into war jobs, leaving their customers to shift for themselves.

Home laundry equipment production is at a standstill, further complicating the doing of laundry at home.

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About 75 percent of all commercial laundry workers are women, according to the American Institute of Laundering. Thus it might seem that all that is necessary to restore laundry service to its former efficiency would be for more women to take jobs in laundries. However, statistics show that of the 25 percent of employes who are men, 47.7 percent are subject to the draft and most of their

jobs have not been considered suitable for women. But at least one of these traditionally men's jobs is being filled by women in some laundries, that of routeman, or driver salesman. This job involves driving a delivery truck to collect and deliver laundry, soliciting business, collecting bills, reporting complaints and unloading bundles at the plant.

At least 32 other types of laundry jobs can be filled by women. Many of them are even considered suitable for women with some physical handicap such as deafness, loss of fingers or eye, or with certain deformities such as hunchback or crippled legs or hands. Older women, too, are acceptable for at least 75 percent of these jobs, including such positions as marker or classifier, seamstress, tumbler or drier operator, shake-out and starch operator, starch maker, flatwork feeder and folder, hand ironing operator, handkerchief ironer, blanket and curtain operators, checker or distributor; department head, foreman or supervisor; telephone operator and bookkeeper.

William S. Kelley, of the Public Relations Committee of the Laundry Owners' Assn. of San Diego, estimates that one woman in a laundry can do seven times as much work, due to the use of power machinery, as a woman doing laundry at home. Without laundry service, Mr. Kelley points out, war workers will have to take time off to do their own and will be only one-seventh as efficient.

Magazine Division
Office of War Information
Social Security Building
Washington, D. C.

WOMEN IN LAUNDRY WORK

The present shortage of workers in the nation's laundries is felt directly by so many American families, factories, and institutions as to make laundry work a major manpower problem in the field of necessary civilian services.

Two trade associations, the Linen Supply Association and the American Institute of Laundries, have together compiled the following facts on this field, including a description of thirty specific jobs peculiar to laundries which may be performed by women. Laundries also, of course, use some office and clerical help.

Even in normal times 20,000,000 families rely on the laundry to keep their clothing and linens serviceable and sterile. Also, thousands of hospitals, restaurants, hotels, transportation lines, shops, factories, and food-packing plants rely on linen supply laundries for their linens, napery and sterilized work uniforms. Diapers for many thousands of babies, and textile products for factories are also handled by branches of the laundry industry.

The war has sharply increased the importance of laundry service. The job of the laundries increases as more women leave the home for industrial jobs, more men enter the service and send their clothing out to be washed, and increased industrial activity requires that more uniforms and towels be laundered. Especially in wartime, when dangers of disease are greater, the service of the laundry is essential to the welfare of the entire nation.

Even in peacetime, 70 percent of laundry workers were women; today the figure is about 80 percent. The nature of the work makes it possible for almost anyone to help; aged, handicapped, unskilled, part-time workers. Because little experience is needed, a woman earns her wages immediately. Most of the jobs require comparatively little physical effort and are relatively less tiring than many other jobs in industry. This has led to a wide-spread movement to offer employment to handicapped workers.

Hours, wages, and working conditions in laundries have improved greatly during the past ten years.

Women who can work only part of the week, or part of each day, are welcomed in the laundry. There is no assembly line that is slowed down if one place is not constantly filled. Housewives who can spare a few hours a week can serve their entire community at the same time they are increasing the family income.

Specific types of jobs that can be filled by women are:

1. Bundle Operator: Classifies, carries and trucks bundles of soiled washing to markers; may weigh bundles and start or stop conveyor, supply pins and nets to markers.

2. Marker or Classifier: Divides customers' bundles into proper classifications, places each classification in proper net, and pins; identifies each individual piece, lists items in bundle.

3. Seamstress: Darns or patches damaged nets used in washing bundles; replaces buttons on shirts and wearing apparel, makes minor fabric repairs on shirts and wearing apparel; performs some alterations.

4. Tumbler or Drier Operator (Small Machine): Lifts damp articles of washing from hand trucks into a tumbler that dries and fluffs up damp fabrics; starts and stops the tumblers; lifts dried articles from tumbler into hand truck; folds and stacks dried articles.

5. Shake-Out and Starch Operator: Sorts clean semi-dry articles; sets aside pieces that are not to be starched and sorts the remaining articles into groups according to the type of starching that is required; shakes out garments by hand and places them in piles to facilitate work of the starching; applies proper classification of starch; operates small starch extractor.

6. Starch Maker: Mixes ingredients such as dry starch, water, and beeswax in a tank; opens and closes valves to cook and cool the liquid starch solution. This job is normally combined with some other job in the plant.

7. Flatwork Shake-Out Operator: Shakes out creases in semi-dry washing either by hand or by machine operation placing various articles in convenient piles on tables or poles ready for feeders.

8. Flatwork Feeder: Places clean, damp flatwork pieces on feed ribbons which convey pieces into flatwork ironing machine.

9. Flatwork Folder: Receives articles as they emerge from flatwork ironing machine and either partially or completely folds them. In plants handling work with a net or bundle system the operator must keep individual bundles together and properly identified.

10. Flatwork Refold and Touch-Up Operator: Finishes folding pieces of flatwork which have been partially folded by folder operator; removes wrinkles from work passing through flatwork ironer; presses articles which have been only partially dried by flatwork ironer; keeps production records; inspects articles for stains, damages, or poor ironing.

11. Hand Ironing Operator: Completely irons better grades of flatwork or expensive materials with the use of a hand iron.

12. Handkerchief Ironer: Places clean, damp handkerchiefs on turret-type machine; operates machine; folds handkerchiefs; keeps individual customer bundles together and identified.

13. Wearing Apparel Press Operator: Machine presses all types of wearing apparel; operates press; sometimes does hand touch-up work and folding.

14. Wearing Apparel Finisher: Finishes those parts of wearing apparel, which cannot be done on presses, with a hand iron.

15. Wearing Apparel Service Operator: Inspects wearing apparel for missing buttons, tears, stains; routes garments to be hand finished to hand finisher; keeps production records; folds garments.

16. Shirt Press Operator: Lays and arranges shirts on the padded buck of the presses designed to finish a particular part of the shirt and pushes buttons or moves levers to raise or lower the pressing head; also periodically puts on new padding and cover cloths on pressing machine.

17. Shirt Hand Finisher and Folder: Where shirts are completely machine pressed, this operator merely folds shirts. In other cases shirts are both hand ironed in certain spots untouched by the presses and then folded. Inspection is a part of the job.

18. Blanket Operator: Feeds blankets between rolls of a nap-raising machine; moves lever to start and stop and adjust machine; brushes blankets by hand; hangs or stretches blankets up to dry.

19. Curtain Operator: Stretches curtains on curtain-drying machine; operates fluting machine or ruffle machine; presses curtains; folds and hangs curtains ready for delivery; inspects for quality.

20. Sorter or Assembly Operator: Sorts laundered and finished articles into groups according to customer ownership and assembles groups for wrapping.

21. Checker or Distributor: Verifies the listing of each customer's bundle of washing as assembled and recorded by the sorter; inspects articles to insure that they have been satisfactorily laundered and finished; places checked bundle ready for wrapper.

22. Wrapper: Packs clean, finished clothing and fabrics in cardboard boxes; places lids on boxes and secures them with string or gummed tape; prepares boxes by folding and arranging them ready for use.

23. Damp Assembly Operator: This job follows washing and extracting wherein the operator assembles clean, washed customer bundles and places them in delivery bags ready for delivery to the customer. If garments are to be finished, they are prepared, identified and placed in trucks to be routed to finishing departments. Operator checks to make certain that all

parts of the customer's bundle are intact; removes nets of laundered articles from conveyors; removes and assembles pins; hangs up nets of laundered articles on conveyor or assembly rack.

24. Finished Bundle Operator: Sorts package bundles into proper bins ready for pick-up by routeman; delivers supplies as needed to various operators in plant; keeps inventory record.

25. Claim Adjuster or Service Operator: Consults office records; classifies complaints; and performs other clerical work incidental to the adjustment of customer complaints concerning lost or damaged goods.

26. Department Head, Foreman, or Supervisor: Supervises the activities of workers in her department; maintains production records; helps to plan variations in methods of operation of department; regulates flow of work through the department; assigns work; trains new employees; may perform one or more jobs within the department if she is a working supervisor.

27. Ticket Operator or Pricing Clerk: Performs clerical work involved in pricing each customer's bundle; keeps records of bundles received; keeps records of weights, prices, etc.; separates lists and tickets.

28. Sales Control Operator: Prepares laundry tickets for route salesmen; maintains records of regular and irregular customers; prepares addressographed plates; operates addressograph machine; assists with other office duties.

29. Counter Girl: Receives and dispatches Cash and Carry bundles; sorts bundles; acts as receptionist; and may assist with other office duties.

30. Route Driver or Driver Salesman: This job is normally handled by a male operator, but under present conditions some plants have changed over to females. Duties involved are driving a delivery truck over an established route to collect soiled bundles and deliver laundered or finished bundles to customer's homes. Calls on prospective customers to solicit patronage. Makes collections from customers; reports complaints; unloads bundles at plant or loads trucks, as the case may be.

This material was compiled in connection with the program to promote full use of womanpower in necessary civilian jobs which is being sponsored by the Office of War Information and the War Manpower Commission with the cooperation of national magazines.

July 14,1943

ADVANCE RELEASE---- ADVANCE RELEASE

MVR

OFFICE OF WAR INFORMATION

Advance Release: For Friday Afternoon Papers, July 30, 1943

Howard: 72006 OWI-2240

More than 100 laundries in various parts of the country have been forced to close during the past three months, bringing the year's total of these shut-downs to about 600, the Office of War Information reports.

On the remaining laundries has fallen the burden, not only of the work normally done by these 600 casualties, but of increases in new service requests ranging as high as 200 percent. Typical examples are Springfield, Mass., where 100,000 men's shirts are being received weekly as against 50,000 a year ago, and New York City which reports from 150 to 200 percent more work -- and 35 percent less than the normal number of employees.

That is why the shirt-a-day man must have at least 28 shirts in his wardrobe to take care of the two-week gap between sending them to and receiving them back from the laundry -- why a Houston, Texas, hotel now provides its guests with "finger" towels, half the size of a regular face towel -- why so many restaurants which used to be stickler for fresh table cloths for each guest, now serve their meals on bare tables and slip a paper napkin into the customer's lap.

It is also the reason why the War Manpower Commission has required that, if a laundry is to be classified as "locally needed" and get help from the United States Employment Service, it must agree to: eliminate handironing of finishing of any garment if mechanical facilities are available; eliminate all starching or sizing of flat work; limit customers to one grade in the starching of shirts and other apparel; eliminate folding of articles in damp or wet wash bundles; request hotels and lodging houses to change bed linen not oftener than once a

week for any one guest and limit guests to one face and one bath towel per day; and request restaurants to use an average of no more than one tablecloth per day per meal period.

Adherence to these and certain other provisions of the War Manpower Commission makes a laundry eligible for referral of workers by the U.S. Employment Service and assures it of protection from labor piracy and stabilization of their existing labor force.

The reasons why the laundries find themselves in their present plight vary in different parts of the country, according to the Office of War Information.

Citing figures from the American Institute of Laundering, OWI points out that despite an increase in the number of laundry employees -- 26,000 more today than before Pearl Harbor -- the immediate cause of the difficulties in most areas is shortage of labor. This is particularly true of experienced labor, especially in war production centers where many long-term employees have left the laundries for better-paying jobs in war plants. And inexperienced labor, according to one estimate, cuts output from 10 to 20 percent.

But back of this shortage are other wartime conditions which have made labor insufficient even though there is more of it:

Thousands of women who formerly did their laundry at home, have taken full-time war jobs and must now send their laundry out.

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- WMC-760

OFFICE OF WAR INFORMATION
WAR MANPOWER COMMISSION

For Immediate Release
Wednesday, June 30, 1943

PM-4410

The nation's laundries, many of which are faced with critical manpower shortages, were extended aid today by the War Manpower Commission and the Office of Civilian Requirements of the War Production Board.

Regional directors of the War Manpower Commission were authorized in instructions sent them to classify laundries as "locally needed" and hence eligible for the same preferentail treatment now accorded essential war industries under stabilization plans now in operation throughout the country. This includes referral of workers by the U. S. Employment Service, protection from labor piracy and stabilization of their existing labor force, but does not provide for occupational deferment under the Selection Service Act. At the same time laundries were called upon to discontinue luxury services.

Under the instructions sent the Commission's Regional Directors, laundries may be classified as "locally needed" activities if and when they have met standards agreed upon by the Office of Civilian Requirements and the War Manpower Commission.

These standards, the result of studies instituted several months ago by the WMC and the Office of Civilian Requirements in consultation with all branches of the textile maintenance services, are designed to accomplish two purposes: 1. to put the textile maintenance services on a rock bottom, first-things-first basis; 2. enable them to give adequate essential service to more people than they are now doing with the labor force they have or are likely to get in view of overall requirements.

Standard which laundries, cleaners, linen supply and similar services must meet before they can be classified as "locally needed" follow:

Power laundries shall:

1. Establish the following maximum family laundry services:

   a. Wet wash (shirts finished upon request)

   b. Semi-finished or rough dry (flat work machine finished; wearing apparel dry or damp, and ready to iron; and shirts finished upon request)

   c. Press or family finish (flat work machine finished; wearing apparel straight machine pressed; and shirts finished)

2. Establish the following maximum commercial laundry services:

   a. Flat work (bed, bath, table, and kitchen linen)

   b. Laundering of protective work clothing
      (1) Sanitary clothing machine finished
      (2) Industrial clothing and wipers rough dry

(Over)

X-17496

3. Increase the efficiency with which existing personnel is used by making the following adjustments in services and operations:

(Ironing)

a. Eliminate the hand ironing or finishing of any garment except where no mechanical facilities are available.

b. Discontinue retouching of all flat work.

c. Discontinue retouching of wearing apparel by hand after pressing, except for bare minimum required to make outer wearing apparel presentable.

d. Discontinue ironing of all articles that have been dry tumbled.

(Starching)

e. Eliminate all starching or sizing on damp, wet and semi-finished services unless such starching or sizing is done in the wash wheel as a part of the washing process.

f. Eliminate all starching or sizing of flat work.

g. Limit customers to one grade in the starching of wearing apparel and shirts.

(Packaging)

h. Discontinue the use of shirt boards, shirt envelopes, cellophane wrappings, and tissue box linings.

i. Discontinue the fancy packaging of handkerchiefs, socks and soft collars.

j. Eliminate all other superfluous wrapping and packaging.

(Folding)

k. Discontinue the folding of any portion of a damp or wet wash bundle and of the wearing apparel in thrifty and rough dry bundles.

l. Provide standard folding only of all finished flat work.

(General)

m. Discontinue the rebinding of blankets, except where such rebinding is necessary to preserve the life of the blanket.

n. Conform, in their linen supply business, with the same standards adopted by "locally needed" linen supply houses.

4. Cooperate in public appeals for consumers' economy in the use of laundry services as follows:

   a. Request hotels, boarding and lodging houses, and tourist camps, homes and courts to reduce their requirements for laundry services by:

      (1) Changing bed linen no more often than once a week for any one guest.

      (2) Limiting guests to one face towel and one bath towel every day.

      (3) Minimizing the use of table linens in dining rooms. An average of no more than one tablecloth per table per meal period should be suggested.

   b. Request railroad accounts to eliminate the use of linen towels and to minimize the use of table linen.

   c. Request restaurants to minimize the use of table linen. An average of no more than one tablecloth per table per meal period shall be suggested.

   d. Request housewives and other users of laundry services to:

      (1) Reduce the use of articles that require laundering.

      (2) Discontinue sending small pieces which can easily be done at home.

      (3) Avail themselves of home laundry services wherever it does not interfere with their productiveness in a war job.

      (4) Use wet wash or semi-finish laundry services wherever possible.

      (5) Pre-sort, segregate, and otherwise prepare outgoing laundry bundles in accordance with instructions designed to effect manpower savings in sorting and marking.

5. Take the following steps in the reduction of labor required for pick-up and delivery service:

   a. Establish non-overlapping delivery zones.

   b. Institute a seven-day delivery schedule to household accounts for semi-finish or rough dry and for press or family finish laundry service; that is, simultaneous pick-ups and deliveries once a week in any zone (route).

   c. Institute a not more rapid than 48-hour delivery schedule to household accounts for damp or wet wash laundry service.

d. Eliminate all special pick-ups and deliveries, except to hospitals and the armed forces of the United States, and except where in emergencies, such special deliveries, and pick-ups are necessary for the protection of the public health, life and safety.

e. Eliminate all call-backs except in extenuating circumstances, such as are cited in "d" above.

f. Comply with O.D.T. Order No. 17 and with all other orders of the O.D.T. governing local delivery carriers.

g. Make concerted effort to reduce the number of overlapping territories as between laundries to a minimum by interchanging customers.

6. Extend hours of operation or instituted a multiple shift plan, wherever feasible, so as to maximize the utilization of existing equipment.

7. Indicate a willingness to accept and serve new accounts or to release old accounts, as may be required to maximize the utilization of available manpower, but at the same time engage in no solicitation of new accounts.

These standards, officials said, do not curtail the variety of services which laundries, cleaners, linen supply and other textile maintenance services furnish but they do eliminate frills.

Commenting on the laundry situation, Paul V. McNutt, War Manpower Commission Chairman said:

"The laundry problem is not an over-all national problem. Like other manpower problems it differs from region to region, area to area. As such, specific questions relating to it must be answered in the area and regional offices in the localities where the problems arise."

WASHINGTON EVENING STAR

MARCH 3 - 1943

Two D. C. Women Make Debut As Laundry Driver-Collectors



Mrs. Ethel R. Torrillo is replacing one of the 19 laundry drivers and collectors at Manhattan Laundry who have been drafted. She is Manhattan's first woman on the truck.
—Star Staff Photo.

The laundryman is now a woman at Manhattan Laundry and the National Laundry.

Mrs. Ethel R. Torrillo, 25, 5 feet 9, 156 pounds and a red-head, is the first woman driver-collector-deliverer at Manhattan. She shifted from indoor, sedentary work in the laundry's service department to the outdoor, active job 10 days ago.

Miss Essie May Hawkins, colored, is the first woman laundry driver at the National Laundry. She has been working nearly two weeks.

Mrs. Torrillo, who for a year and a half was a telephone operator at the Manhattan, saw the draft departures of 19 men. She figured she might be able to help by replacing one of them and asked the company whether she could train for the job.

Still in her three week's training period, Mrs. Torrillo has driven a car for eight years. She had never operated a truck with three-quarters of a ton capacity before.

"I feel better now with all the fresh air and exercise I get, than I did before I began this job," she said.

Clad in slacks, a corduroy coat and flat heels, she hauls bundles weighing up to 40 pounds from house to truck and truck to laundry headquarters at 1328 Florida avenue N.W. The length of her working day depends on her speed in leaping in and out of the truck.

"My goal is to get to be as fast as some of the best men have been," she said firmly.

Customers, far from being chagrined by the change, cheer her with wishes of best luck and encouragement. Housewives, perhaps, find even a more sympathetic ear in Mrs. Torrillo on laundry problems because she herself is a housewife who knows firsthand what buttons off shirts and missing linen mean.

C. C. Hillman, sales manager at Manhattan, said Mrs. Torrillo is handling the job so well that the company is considering hiring more women drivers. One other woman has her application on file.

At National Laundry, Miss Hawkins gave laundry customers "a bit of a start" when she first appeared in a company uniform, but they got to like the innovation. National formerly employed 10 white male drivers. The draft took nine of them, and today Miss Hawkins, two colored male drivers and one white man are all that are left of the driving staff.